SOIL & GROUNDWATER MANAGEMENT PLAN

FOR CONSTRUCTION ACTIVITIES CONDUCTED AT:
280 SALEM STREET, WOBURN, MA

CONTACT INFORMATION

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1.0 INTRODUCTION

This Soil & Groundwater Management Plan (SMP), prepared by Goldman Environmental Consultants, Inc. (GEC), is intended for use in conjunction with proposed construction and redevelopment activities at the Former Aberjona Auto Parts facility (the Aberjona property) located at 280 Salem Street, Woburn, Massachusetts, located within the Wells G&H Superfund Site in an area referred to as the Southwest Properties. The purpose of this document is to provide a plan for the management of soil and groundwater during construction activities on the eastern portion of the property referred to as the "Aberjona Triangle"; refer to Figure 1, attached.

The SMP describes appropriate procedures for the handling, on-site reuse, transport, storage, and off-site disposal of soils excavated during construction activities and outlines the management procedures to be followed for dewatering activities associated with such construction, as necessary. This SMP also includes a description of engineering controls and air monitoring procedures necessary to ensure that workers and other individuals in the vicinity are not affected by fugitive dust, particulates, vapors emissions, or exposures to contaminated soil and/or groundwater via inhalation, dermal contact or ingestion.

Prior to initiation excavation activities on the property, the Soil Management Area (SMA) for contaminated soil stockpile management (as described in the SMP) must be constructed in the northeast corner of the property, or other appropriate location. The design of the SMA should consider vehicles entering, stockpiling potentially contaminated soils, and exiting without compromising the containment berms (controlling run-off/run-on) or causing potential cross contamination (e.g., migration of contaminants outside the SMA).

The U.S. Environmental Protection Agency (EPA), in consultation with the Massachusetts Department of Environmental Protection (MADEP), is overseeing the performance of a Remedial Investigation/Feasibility Study at the Property and has identified several Site-specific concerns relative to the planned redevelopment of the Site. These concerns, outlined in EPA's May 7, 2004 letter to Robert Holland, provided herewith as Attachment 1, are incorporated by reference and addressed herein.

On-site workers must be informed of the requirements of the SMP. This SMP and the Health and Safety Plan prepared by each worker's respective employer must be available on-Site throughout the course of any construction project.

2.0 SITE DESCRIPTION & SUMMARY OF CONDITIONS

2.1 Site Description

The Aberjona property is a 6.43–acre parcel that abuts the Aberjona River to the northeast, Salem Street to the southeast, property owned by the Wildwood Conservation Company to the

northwest, and a portion of the Wells G&H Superfund Site known as the Whitney Site to the southwest. There are three buildings on the Aberjona property. The largest building houses the former auto parts store and offices. The other two buildings are a residential home and a detached garage. Land use at and in the vicinity of the Aberjona property is highly developed with light commercial and light industrial areas associated with the Aberjona River floodplain.

The Aberjona Auto Parts facility operated on the Site from approximately 1950 to the late 1990s as an automotive reclamation, used part and car storage center with an attached automobile service station. A gas station also operated at the facility from approximately 1950 to 1960. As part of the automotive reclamation process, the facility also conducted degreasing operations to clean parts. The property owner removed hundreds of junked cars from the property and only the automobile service station and recent towing service (temporary lease) are operational. The vehicle reclamation and storage operations ceased in the late 1990s.

The current ground surface is fill material ranging from six inches to five feet in thickness over the original ground surface. The depth to groundwater varies seasonally and with proximity to the Aberjona River and associated wetlands, but generally ranges between five and nine feet below grade.

Several groundwater monitoring wells are located on the Aberjona property; refer to Figure 1 for well locations. Care during construction activities must be taken to avoid damaging or destroying the wells. Monitoring wells inside the construction envelope must be clearly marked, and equipment operators made aware of their locations. The Contractor is responsible for ensuring that the wells are protected (e.g., surround monitoring wells with jersey barriers or equivalent barriers). The Contractor must immediately notify the property owner, GEC, EPA and MADEP if a well is damaged and/or if a well presents an obstacle to construction work. Any damaged wells will require repair or replacement.

2.2 Summary of Site Conditions

During site inspections of the Aberjona property by EPA personnel and their consultants, and subsequent visual inspections by GEC, aside from small areas of petroleum-stained surface soils observed beneath several of the junked cars, no evidence of unconsolidated deposit or surface water contamination was identified.

Laboratory analysis of surface soils, subsurface soils and groundwater samples collected by EPA's consultants identified numerous classes of chemical compounds at the Aberjona property including: chlorinated volatile organic compounds (CVOCs), semi-volatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), pesticides, metals, polychlorinated biphenyls (PCBs), as well as aromatic and aliphatic petroleum hydrocarbons.

In general, the compounds detected in soil were at concentrations consistent with typical background conditions for properties with urban fill material and similar use histories and/or at low concentrations near sample detection limits. Several compounds were detected in groundwater beneath the Aberjona property at levels that exceed drinking water standards. The most notable and highest concentrations of TCE were found at medium depth monitoring well AB-2M of 41 µg/L (approximately 50 feet below ground surface) and bedrock monitoring well AB-2R of 160 µg/L (approximately 100 below ground surface). Sampling plans and data summary tables are provided in Attachments 2 and 3 for soil and groundwater respectively.

Data generated during EPA's investigation of the Aberjona property in 1993 and 2002 were used in evaluating potential health risks from exposure to soil and groundwater; results of this evaluation are documented in the *Baseline Human Health and Ecological Risk Assessment: Southwest Properties, Wells G&H Superfund Site, Operable Unit 2, Woburn, Massachusetts* (BRA), dated March 2004, prepared by TRC Environmental Corporation of Lowell, Massachusetts. EPA summarized the BRA conclusions for the Aberjona property in their May 7, 2004 letter to Robert Holland as follows:

> *". . . (1) the levels of contamination detected in the soil on the [Aberjona property] are low and appear not to pose a risk in excess of EPA's risk range; (2) the levels of contamination in shallow groundwater (less than 15 feet below the ground surface) underlying the [Aberjona property] appear not to pose a risk to construction workers in excess of EPA's risk range . . ."*

EPA's letter continues by stating:

> *"Given that your planned reuse of the [Aberjona property] will not rely on the use of groundwater underlying the Property or disturbance of sediments at [sediment] stations WS and 10 [on the east side of the Aberjona property along the Aberjona River], and that you do not plan to excavate [greater than] 15 feet below the ground surface, EPA does not believe that the conditions at the [Aberjona property] as currently characterized would restrict you from proceeding with your hockey rink proposal . . ."*

3.0 SOIL & GROUNDWATER MANAGEMENT PLAN

This SMP is intended for use in conjunction with proposed construction and redevelopment activities at the Aberjona property (hereinafter "the Site"); refer to Figure 1 for the Site Plan. All soil and groundwater management during construction activities (i.e., building construction, utility installation (including drainage detention and/or infiltration basins) or repair, paving, and other Site improvements which involve contact with on-Site soil and/or groundwater) will be governed by this

plan including the Soil Management and Environmental Protection Procedures, attached. Any questions regarding this plan should be directed to Samuel Butcher or Parrish Smolcha of GEC at (781) 356-9140. Additional contact information for GEC is provided on the coversheet for this plan.

As noted previously herein, several groundwater monitoring wells are located on the Aberjona property; refer to Figure 1 for well locations. Care must be taken during construction activities to avoid damaging or destroying the wells. Monitoring wells inside the construction envelope must be clearly marked and equipment operators made aware of their locations. The Contractor is responsible for ensuring that the wells are protected (e.g., surround monitoring wells with jersey barriers or equivalent barriers). The Contractor must immediately notify the property owner, GEC, EPA and MADEP if a well is damaged and/or if a well presents an obstacle to construction work. Any damaged wells will require repair or replacement.

The Contractor shall be responsible for controlling run-off/run-on from the construction envelope. The location of these run-off/run-on controls are illustrated on Figure 1. In addition, if potential contaminated soils are encountered during an intrusive activity (e.g., excavation), then the Contractor shall control run-off/run-on controls at the excavation and prevent future potential cross-contamination (e.g., migration of contamination beyond the excavation).

3.1 Soil Management Plan

No soil may be transported off-Site without authorization from GEC, the company hired to provide Licensed Site Professional (LSP) and other environmental services during construction work. It is anticipated that a significant portion of the excavated soils can be reused and will remain on-Site. Excavated soil that is deemed suitable for use as construction backfill will, to the extent practical, be replaced as close as possible to the location from which it was excavated during construction activities. If soil must be sent off-Site, a representative from GEC will first collect stockpile samples for laboratory analysis for use in identifying appropriate receiving facilities. Off-Site transport and disposal of soils must be coordinated with GEC to ensure compliance with applicable state and federal regulations. GEC will use hierarchy of reuse, recycling and disposal when evaluating treatment options. Additional soil management guidance is provided in the specifications entitled, Environmental Protection Procedures and Stockpile Management Procedures provided herewith as Attachments 4 and 5, respectively. For soil to be sent off-site, EPA will review the proposed permitted facilities prior to off-site reuse, recycling or disposal for "current acceptability status" in accordance with EPA's off-site policy rule.

It is anticipated that the maximum depth of any construction excavation will be eight (8) feet below grade; excavations to this depth likely only will be associated with installing the building foundation and underground utilities (including drainage detention and/or infiltration basins); refer to Figure 1, prepared by GEC, and Engineering Plans C-2, C-3, C-4, D-1 and D-2, prepared by Allen

and Major Associates, Inc., attached. Groundwater is present at a depth of five to nine feet across the Site and varies seasonally and with proximity to the Aberjona River. Dewatering of any construction excavation, if necessary, must be coordinated with GEC and will be governed by Section 3.2 of this plan to ensure compliance with applicable state and federal regulations. In addition, soil and groundwater will be managed consistent with the Stockpile Management Procedures and Environmental Protection Procedures, attached.

3.1.1 Dust Suppression & Dust/Vapor Monitoring

Visible dust generated by construction activities should be controlled at all times via soil wetting or other method such as calcium chloride. Overspraying of water as a dust control measure must be avoided to help control run-off and erosion. During construction dust and vapor levels will be monitored via: 1) real-time instrumented organic vapor monitoring of air in the breathing zone of all excavations will be conducted using a photoionization detector (PID) equipped with an 11.7 eV lamp or equivalent capable of measuring vapor concentrations as low as 1.0 part per million to ensure adequate protection to workers; and 2) real-time instrumented dust monitoring of air in the breathing zone must be utilized at upwind and downwind monitoring stations along the property lines to ensure the protection of workers and the general public. An upwind and downwind dust monitoring station will be set up. Monitoring station locations will be determined on a daily basis using site specific meteorological data in combination with siting criteria for particulate monitors contained in the ACOE Engineering Manual, referenced in Attachment 4. Each station will be outfitted with a real-time particulate monitor for monitoring of Total Particulate (TSP/PM) concentrations in ambient air (MIE/TECO Data Ram, Met One ES-640 or Performance Equivalent Unit). Real-time dust monitoring results will be compared an action level of 150 µg/m3 (24 hour average) for TP/PM. The level of dust attributable to construction activities is determined by subtracting the upwind readings from the downwind readings. If dust concentrations are greater than 150 µg/m3 (24 hour average) increased dust suppression measures will be taken to reduce off-site dust. Additional guidance on dust suppression and dust/vapor monitoring is provided in Attachment 4, Environmental Protection Procedures.

Action Level – PM-10 Dusts

The Action Level for PM-10 dusts generated by construction activities is 150 ug/m^3, i.e., EPA's National Ambient Air Quality Standard for the 24-hour average concentration of PM-10 dusts.

If the PM-10 Action Level is exceeded, the Contractor must mitigate dust generation via soil wetting. As indicated previously, overspraying of water must be avoided to help control run-off and erosion. If soil wetting does not adequately mitigate PM-10 dust concentrations, the Contractor

should consult with the owner and GEC to evaluate the need to upgrade dust suppression methods, e.g., use calcium chloride.

Action Level – Organic Vapors

The Action Level for Organic Vapors generated by construction activities is 5.0 parts per million (ppm) based on readings from a photoionization detector calibrated daily, at a minimum, to an isobutylene standard.

Exceedences of the organic vapor Action Level will require Level D work stoppage until levels return to sub-threshold levels, after which work in Level D may resume. Readings consistently above the organic vapor Action Level will require a Personal Protective Equipment (PPE) upgrade to Level C protection. If such a situation exists, personnel that have not been fit tested for work at Level C will remain upwind of the area, where the Action Level can not be exceeded.

3.1.2 Soil Excavation and Stockpile Management Procedures

During excavation, the Contractor shall maintain a log of soils excavated by Site area and document the final disposition of those soils (e.g., soil shipped off-Site or retained on-Site for reuse). Excavated soils must be visually inspected to evaluate the soils for consistency with the environmental characterization work previously performed and to identify odor changes, color changes and/or the presence of solid waste debris. GEC personnel shall be present during excavation activities and determine the presence of potentially contaminated soils and/or solid waste. If potentially contaminated soils are encountered in a given area based on organic vapor monitor, odors, soil discoloration, buried containers or other materials contributing to a potential release, etc., the Contractor must stop further excavation work in that area until GEC can assess the situation and provide the Contractor with specific directions for managing the contaminated soils. Contaminated soils must be stockpiled separately from clean soils; GEC will direct the Contractor in segregating contaminated soils from clean soils. Additional guidance on managing excavated soils is provided in Attachment 5, Stockpile Management Procedures.

Clean Soils Stockpile Management

At the end of each day, clean soil stockpiles must be covered with 6-mil polyethylene sheeting – secured by rocks, tires or other heavy objects to prevent strong winds from removing the cover – to prevent fugitive dust generation and/or soil run-off. Every effort should be made to avoid stockpiling soils overnight.

Contaminated Soils Stockpile Management – Soil Management Area (SMA)

Following are general guidelines for managing potentially contaminated soils encountered during construction/excavation work. If potentially contaminated soils are encountered based on organic vapor monitor, odors, soil discoloration, buried containers or other materials contributing to a potential release, etc., the Contractor must seek specific soil management guidance from GEC.

- The Contractor shall stockpile potentially contaminated soils directly in the designated Soil Management Area (SMA) in the northeastern corner of the Site in such a manner to protect existing Site surface, materials and structures from contamination, runoff and erosion; refer to Figure 1 for the designated contaminated soil stockpile area/SMA. Intermediate staging of contaminated soils elsewhere on-Site is strictly prohibited. If for any reason, the designated SMA cannot be used, the Contractor must consult with GEC to select an alternate location. GEC will notify EPA and MADEP of any change.

- The SMA will be designed by GEC and constructed by the Contractor. The design of the SMA will include: a minimum of 10-mil nylon reinforced polyethylene sheeting serving as an impermeable/low permeable barrier to contain stockpiled contaminated soils; a 1-foot to 2-foot high berm of baled hay or clean fill with the 10-mil nylon reinforced polyethylene sheeting extended over the berm, reaching the exterior ground surface; flexibility to expand should additional potentially contaminated soils be encountered; and consider how the potentially contaminated soils will be transported and stockpiled without compromising containment berms (controlling run-off/run-on) or causing potential cross contamination (e.g. migration of contaminants outside the SMA). If more than one sheet of polyethylene is needed to line the ground beneath the SMA, each section of sheeting must overlap by at least three (3) feet. At the end of each day the contaminated soil stockpiles must be covered with 10-mil nylon reinforced polyethylene sheeting, secured by rocks, tires or other heavy objects to prevent strong winds from removing the cover. As necessary, the SMA will be designed with a sump pump to remove any accumulated water from SMA and temporary store the water in frac tanks (see Section 3.2 Groundwater Management Plan). In addition, should contaminated soils be encountered that GEC, EPA and/or MADEP consider a potential long-term source to groundwater contamination, then these soils will be either: 1) placed in a separate cell in the SMA; or 2) placed directly into a lined roll-off container (similar to the management of NAPL), and properly disposed of, likely, off-site.

- Soils containing free-phase petroleum NAPL must be placed directly into a lined, roll-off container; these soils may not be reused and must be disposed off-Site in accordance with

Section 3.1.3 of this SMP. Note: Environmental assessment work conducted to date has not yielded evidence of NAPL at the Site.

3.1.3 Soil Management – On-Site Reuse

Following are guidelines for on-Site reuse of stockpiled soils.

On-Site Reuse of Clean Soils

Decisions on reusing clean stockpiled soils on-Site will be determined by the Contractor and will be based strictly on the suitability of soils for use in backfilling construction excavations or as structural fill. Excavated soils not consider "potentially contaminated soils" shall be considered clean. Stockpiled soils that are deemed suitable for use as construction backfill will be replaced as close as possible to the location from which it was excavated, to the extent practical.

On-Site Reuse of Contaminated Soils

The Contractor must consult with GEC prior to reusing potentially contaminated soils on-Site. In general, contaminated soils may be reused on-Site for backfilling construction excavations or as structural fill, as deemed appropriate by the Contractor and GEC, except for soils impacted by NAPL, which must be disposed off-Site. Contaminated soil must be replaced as close as possible to the location from which it was excavated and may only be reused in areas that will be covered by concrete or pavement when construction is complete unless otherwise authorized by GEC and approved by EPA. The Contractor shall maintain a log to document the final disposition of contaminated soils reused on-Site.

In addition, if contaminated soils are encountered that GEC, EPA and/or MADEP consider a potential long-term source to groundwater contamination, then these contaminated soils may not be reused on the property in their current state. These soils should be either: 1) placed in a separate cell in the SMA; or 2) placed directly into a lined roll-off container (similar to the management of NAPL), and properly disposed of, likely, off-site.

3.1.4 Soil Management – Off-Site Reuse, Recycling or Disposal

Following are guidelines for off-Site reuse, recycling or disposal of stockpiled soils. No soil removed from the Site may be disposed off-Site or reused at any location other than a facility and/or off-Site location permitted to accept the soil. The Contractor must receive authorization from GEC prior to removal of any soil from the Site.

Off-Site Disposal of Soil Stockpiles – Clean & Contaminated Soils

Stockpiles of clean and/or contaminated soils that are deemed unsuitable for use as backfill and soil that remains after all construction excavations have been backfilled and Site grading

completed, i.e., excess soils, must be disposed off-Site in accordance with the Massachusetts Hazardous Waste Regulations (310 CMR 30.0000) and the Massachusetts Contingency Plan (310 CMR 40.0000) and all other pertinent local, state and federal regulations. Following are the guidelines for the handling, transport and off-Site disposal of excess soils, both clean and contaminated. Prior to off-Site disposal, a list of proposed disposal locations – including facility name, address, identification and special permit number, as well as a description of material to be sent off-Site and any supporting analytical data, as applicable – will be submitted to EPA to determine "current acceptability status" consistent with EPA's off-site rule. A copy of the data will also be submitted to MADEP. GEC's LSP will obtain and review the operating permit of the off-Site reuse, recycling or disposal facility to ensure that the facility is suitable for the off-Site management of Site soil.

- No soil removed from the Site may be disposed off-Site or reused at any location other than a facility and/or off-Site location permitted to accept the soil. Approval by GEC is required prior to removal of any soil from the Site. Preference will be given to recycling soils as opposed to landfill disposal.

- Large debris and solid waste material such as former foundations, concrete, field stones, cobble stones, wood or metal shall be separated from the soil by mechanical means and salvaged for on-Site/off-Site reuse or disposed off-Site separately as solid waste at a facility permitted to receive construction/demolition debris.

- GEC will sample stockpiled soils by removing the first 12 inches of soil at a given sample location. Each required composite sample should be comprised of eight (8) grab samples. Composite soil samples collected by GEC will be submitted to a state-certified laboratory for analysis for the Basic Massachusetts Disposal Criteria Package. Sample frequency for a typical soil disposal/recycling facility include obtaining one sample per 100 cubic yards for total petroleum hydrocarbons by GC/FID and one sample per 500 cubic yards for VOCs, SVOCs, PCBs, pesticides, arsenic, cadmium, chromium, mercury, lead, corrosivity, ignitability and cyanide/sulfide reactivity. At the request of the receiving facility, additional analyses may be performed and/or the sampling frequency may be modified.

- In addition, GEC will collect any additional samples EPA, in consultation with MADEP, determines necessary relative to the characterization of soils encountered which may be considered a potential long-term contribution to groundwater contamination.

- Soils disposed off-Site must be transported under Material Shipping Record (MSR), Bill of Lading (BOL) or Uniform Hazardous Waste Manifest (UHWM), as deemed appropriate by GEC. BOL documentation will be prepared by GEC. The owner must sign the MSR, BOL and/or UHWM before soils can be transported off-Site.

- During all transportation of contaminated soil, covers or liners shall be used to prevent dust emissions. These temporary covers on trucks or other hauling equipment should be installed with care to minimize possibilities for the waste to come in contact with high winds during transport.

- The Contractor must maintain a log of materials removed from the Site (soil, subsurface structures, wood, metal, debris, etc.). The log shall reflect vehicle identifications, load number, manifests or bill of lading numbers and the expected destination of the material. Following shipment, soil weight slips obtained from the receiving facility will be entered into the log to track on the final disposition of the soil and to document the tonnage actually shipped off-Site. Copies of all soil management documentation must be forwarded to GEC, EPA and MADEP within 10 days of receipt of soil by the disposal facility. This log is intended to document soil and solid waste that is removed from the Site as part of the excavation process and is not intended to document the removal of any construction material or solid waste currently above grade level that might also be removed as part of the redevelopment project.

3.2 Groundwater Management Plan

Site topography slopes from west to east toward the Aberjona River, i.e., from the "Aberjona Triangle" at 50 feet above sea level (ASL) to the wetlands bordering the river at 44 feet ASL. The depth to groundwater varies seasonally and with proximity to the Aberjona River and associated wetlands, but generally ranges between five and nine feet below grade.

It is anticipated that the maximum depth of any construction excavation will be eight (8) feet below grade; excavations to this depth likely only will be associated with installing the building foundation and underground utilities. Based on the foregoing, it is unlikely that groundwater will be encountered in excavations during construction and less likely that dewatering will be required. If required, excavation dewatering will be conducted in accordance with local, state and federal regulation.

Based on the information provided, GEC anticipates that groundwater will be treated through two frac tanks (in series) and then a sand filter and granular activated carbon (GAC) filter prior to discharge to the ground at the site. GEC will collect samples of water from the frac tank prior to

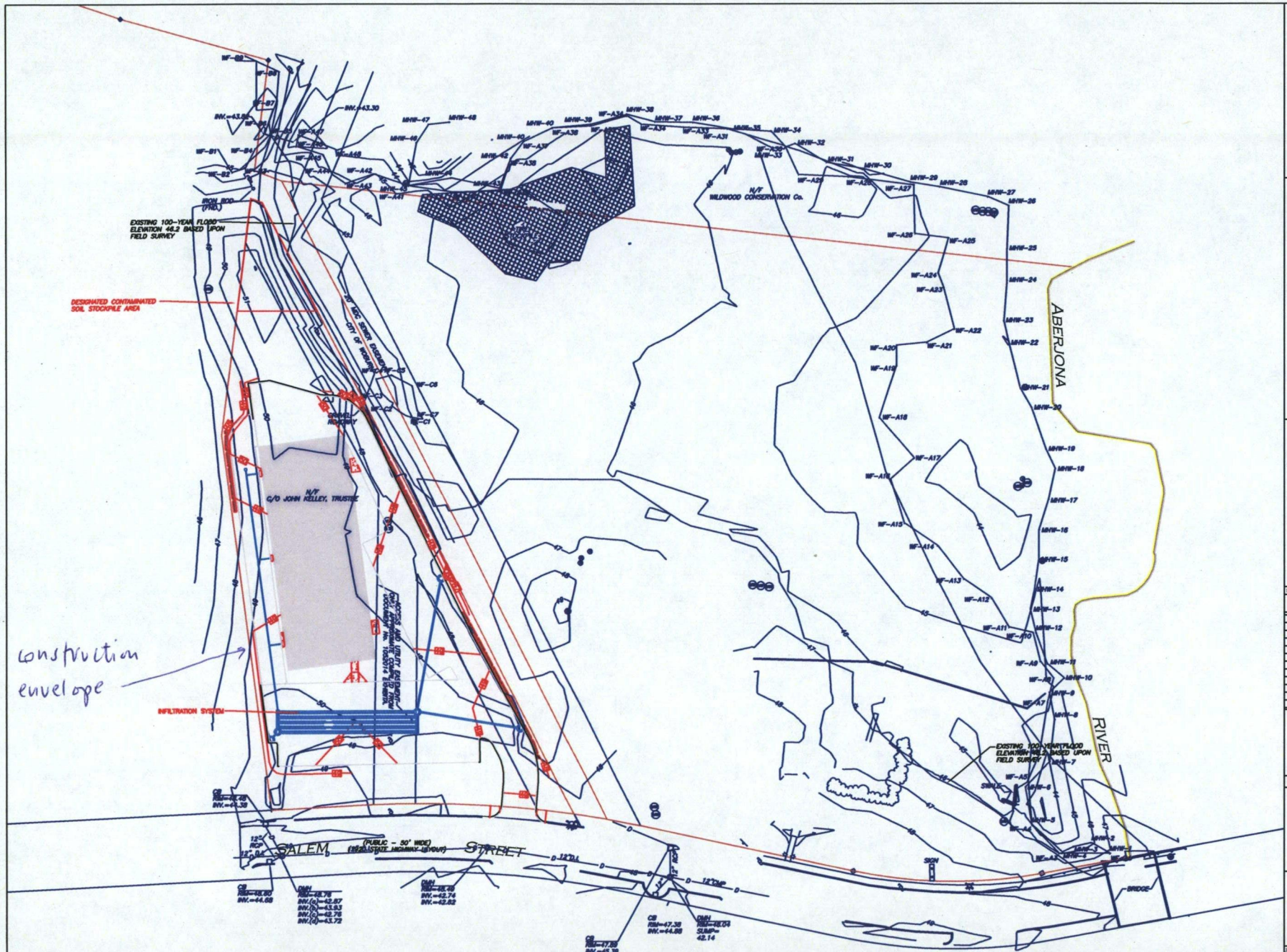
discharge and once discharge commences will collect samples from effluent to assure proper operation of the filtration and treatment system.

In the unlikely event that it is required or otherwise more applicable and appropriate, GEC will submit a Notice of Intent (NOI) to EPA for a Remediation General Permit (RGP) if one or more compounds is detected at a concentration equal to or greater than the effluent limitations provided in Appendix III of EPA's document entitled, *Final Remediation General Permit Under the National Pollutant Discharge Elimination System (NPDES) for Discharges in Massachusetts, Massachusetts General Permit, Permit No. MAG910000;* refer to Attachment 6 for effluent limitations. If none of the effluent limitations are exceeded, GEC will submit a NOI to EPA for a Construction General Permit (CGP). The NOI for a RGP and a CGP are provided herewith as Attachments 7 and 8, respectively.

The NOI must be submitted to EPA seven days (CGP) or fourteen days (RGP) prior to discharging groundwater pumped from construction excavations. Excavation dewatering conducted prior to receipt of the applicable permit may occur only if groundwater is pumped directly into on-Site holding tanks; water in the tanks may be discharged under the applicable permit or transported off-Site to an approved disposal facility.

Under the RGP, groundwater will be treated prior to discharge. Groundwater from construction excavations will first be pumped to a 21,000-gallon fractionation tank, through a sand filter (or equivalent) to remove suspended solids and finally through a granular activated carbon filter to remove organic contaminants. Treated water will be discharged to an on-Site storm sewer, with the approval of the Woburn Department of Public Works. System testing and monitoring will be conducted in accordance with the terms of the RGP. Upon receipt of the analytical results of influent/effluent testing, the results will be provided immediately to EPA and MADEP.

FIGURES



GEC

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Legend

MW Monitoring Well

Special Notes

1.) This drawing is a graphical representation only and should not be used as a survey.
2.)

Ref. File Location Ex. C:/Projects/Project Name Folder/Subfolder/file name.dwg

Issue / Revision

#	Date	Revisions	Appr.
4	9-22-09	Issued for Revision	RTR

Scale

Sheet Scale

Project Number

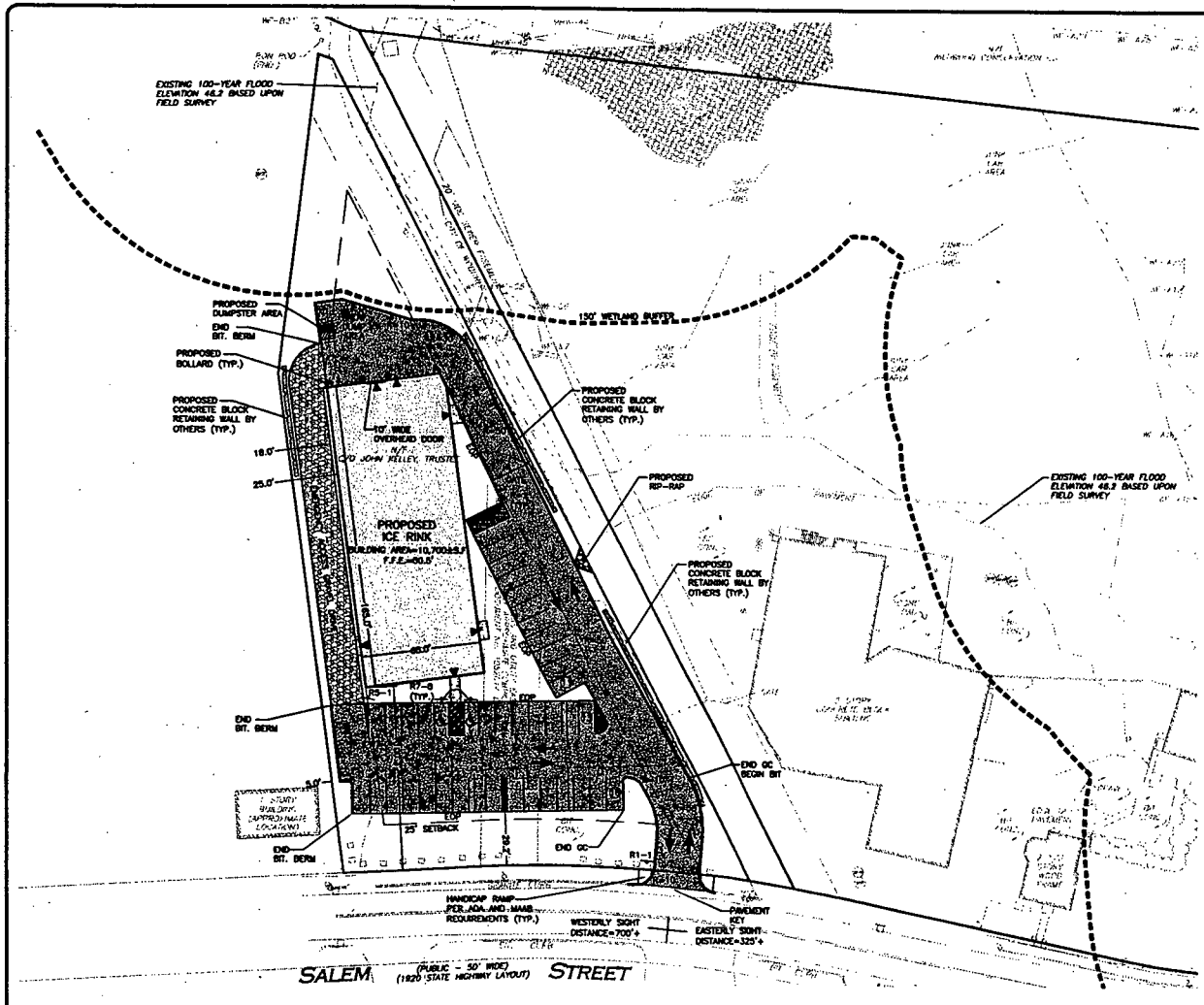
Soil & Groundwater Management Plan
of

Site Name
Street Address
City, Massachusetts

N W E S

John A. Carota, P.E.
No. 34-141
Date:

1
Sheet No.



LEGEND:

PROPOSED

- SIGN
- PROPERTY LINE
- CONCRETE BLOCK WALL
- CURB
- EDGE OF PAVEMENT
- STRIPING
- DOORWAY
- PARKING COUNT
- CONCRETE WALKWAY
- BUILDING
- BITUMINOUS PAVEMENT
- HANDICAPPED PARKING
- BITUMINOUS CONCRETE BERM — BIT
- GRANITE CURB — GC
- EDGE OF PAVEMENT — EOP

EXISTING

- 150' BUFFER LINE
- 100 YEAR FLOOD ELEV.
- WETLAND LINE
- EASEMENT LINE
- WETLAND FLAG
- FLOODWAY
- MEAN HIGH WATER LINE
- MEAN HIGH WATER FLAG
- 25' NO BUILD LINE
- EPA MONITORING WELL
- UTILITY POLE
- FIRE HYDRANT
- BUILDING
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- CURB
- CHAIN LINK FENCE
- BITUMINOUS
- CONCRETE

SIGN TABLE

REGULATORY DESIGNATION	SIGN	SIZE	MOUNTING HEIGHT	DESCRIPTION	REFLECTORIZED
R1-1	STOP	30" x 30"	7' - 0"	WHITE ON RED	YES
R5-1		30" X 30"	7' - 0"	RED ON WHITE	YES
R7-8 (MODIFIED)		12" X 30"	7' - 0"	GREEN & BLUE ON WHITE	YES

LAND USAGE TABLE - BUILDING LOT - I-P DISTRICT

	EXISTING	PROPOSED	REQUIRED
LOT AREA (MIN)	55,800 S.F. ±	55,800 S.F. ±	40,000 S.F.
LOT WIDTH (MIN)	>40 FT	>40 FT	40 FT
STREET FRONTAGE (MIN)	222 FT ±	222 FT ±	125 FT
FRONT YARD SETBACK	N/A	100.3 FT ±	25 FT
SIDE YARD SETBACK	N/A	25.0 FT ±	25 FT
REAR YARD SETBACK	N/A	N/A	25 FT
OPEN SPACE (30% MIN)	100% DISTURBED	23,800 S.F.± (43%)	16,700 S.F.± (30%)
INTERIOR OPEN SPACE (5% MIN)	N/A	1,103 S.F.± (5%)	1,048 S.F.± (5%)
HEIGHT	N/A	<80 FT <7 STORY	<80 FT <7 STORY
FLOOR AREA RATIO	N/A	19%	50%
PARKING SETBACK	N/A	5.0 FT	5.0 FT
FRONT PARKING SETBACK	N/A	29.2 FT±	25 FT
PARKING SUMMARY			
STANDARD PARKING	N/A	38	-
HANDICAPPED PARKING	N/A	2	-
TOTAL PARKING	N/A	40	-

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

1223-01A\CIVIL\DRAWINGS\PARCEL 2 PERMITTING\C-1223-01A.DWG

ISSUED FOR BUILDING PERMIT

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION

APPLICANT/OWNER:
280 SALEM STREET, LLC
P.O. BOX 158
NORTH BILLERICA, MA 01852

PROJECT:
278-280 SALEM STREET
WOBURN, MA

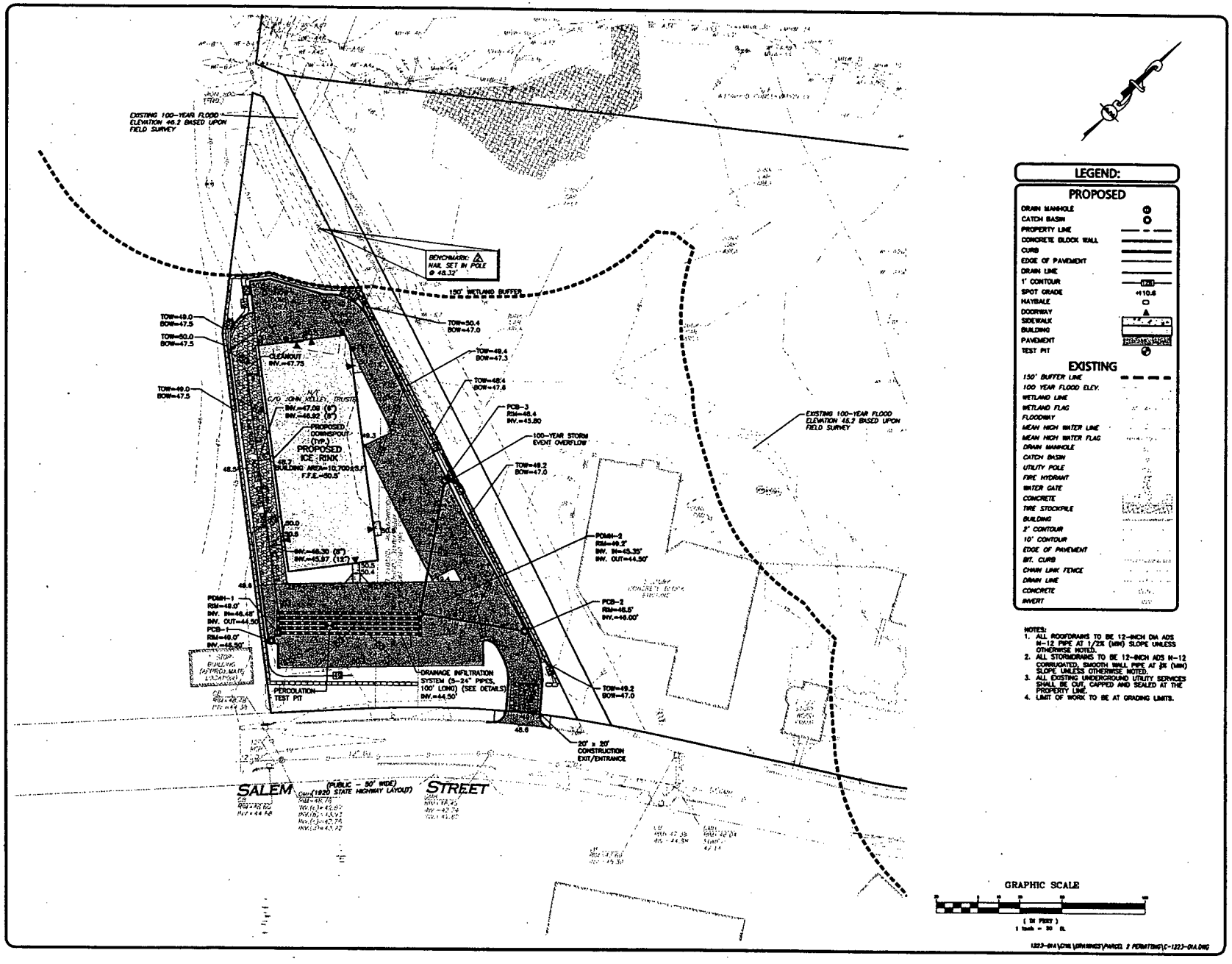
PROJECT NO.	1223-01A	DATE:	09-29-05
SCALE:	1" = 30'	DWG. NAME:	C1223-01A
DESIGNED BY:	CMD	CHECKED BY:	PDC

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineers • structural engineers
land surveyors • environmental consultants
100 COMMERCE WAY
P.O. BOX 2138
WOBURN, MA 01888-9138
TEL: (781) 935-6889
FAX: (781) 935-2896

DRAWING TITLE:
PROPOSED LAYOUT PLAN

SHEET No.
C-2



LEGEND:

PROPOSED

- DRAIN MANHOLE
- CATCH BASIN
- PROPERTY LINE
- CONCRETE BLOCK WALL
- CURB
- EDGE OF PAVEMENT
- DRAIN LINE
- 1' CONTOUR
- SPOT GRADE +110.6
- HAYBALE
- DOORWAY
- SIDEWALK
- BUILDING
- PAVEMENT
- TEST PIT

EXISTING

- 150' BUFFER LINE
- 100 YEAR FLOOD ELEV.
- WETLAND LINE
- WETLAND FLAG
- FLOODWAY
- MEAN HIGH WATER LINE
- MEAN HIGH WATER FLAG
- DRAIN MANHOLE
- CATCH BASIN
- UTILITY POLE
- FIRE HYDRANT
- WATER GATE
- CONCRETE
- TIRE STOCKPILE
- BUILDING
- 2' CONTOUR
- 10' CONTOUR
- EDGE OF PAVEMENT
- BIT. CURB
- CHAIN LINK FENCE
- DRAIN LINE
- CONCRETE
- INVERT

NOTES:
1. ALL ROOFDRAINS TO BE 12-INCH DIA ADS N-12 PIPE AT 1/2% (MIN) SLOPE UNLESS OTHERWISE NOTED.
2. ALL STORMDRAINS TO BE 12-INCH ADS N-12 CORRUGATED, SMOOTH WALL PIPE AT 1% (MIN) SLOPE UNLESS OTHERWISE NOTED.
3. ALL EXISTING UNDERGROUND UTILITY SERVICES SHALL BE CUT, CAPPED AND SEALED AT THE PROPERTY LINE.
4. LIMIT OF WORK TO BE AT GRADING LIMITS.

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

1223-01A \CIVIL \DRAWINGS \PARCEL 2 PERMITTING \C-1223-01A.DWG

ISSUED FOR BUILDING PERMIT

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION

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P.O. BOX 158
NORTH BILLERICA, MA 01852

PROJECT:
278-280 SALEM STREET
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PROJECT NO.:	1223-01A	DATE:	09-29-05
SCALE:	1" = 30'	DWG. NAME:	C1223-01A
DESIGNED BY:	CMO	CHECKED BY:	FDC

PREPARED BY:

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land surveyors • environmental consultants
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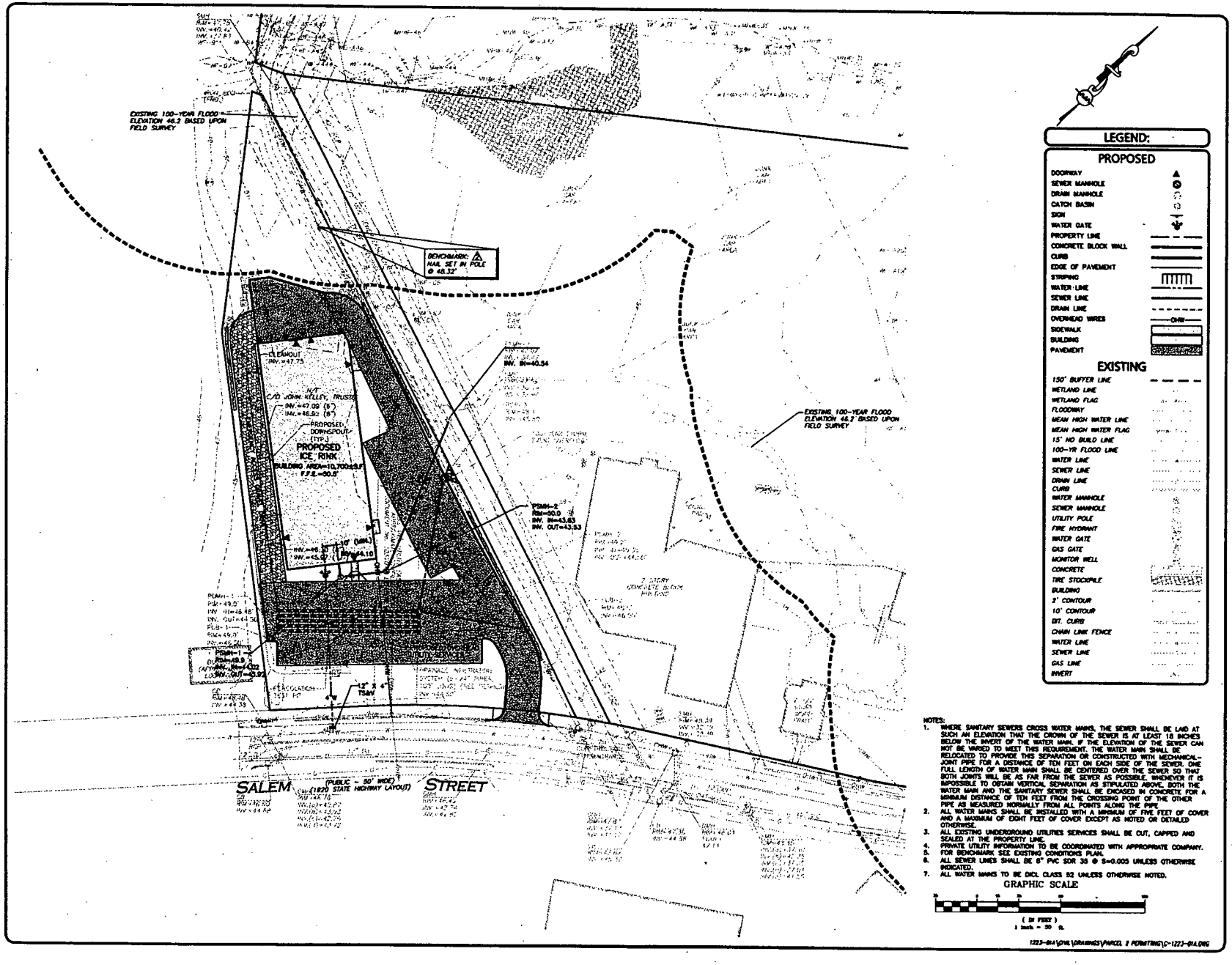
WOBURN, MA 01888-0158
TEL: (781) 935-6889
FAX: (781) 935-2896

DRAWING TITLE:
GRADING & DRAINAGE PLAN

SHEET No.
C-3



LEGEND:

PROPOSED

- DOORWAY
- SEWER MANHOLE
- DRAIN MANHOLE
- CATCH BASIN
- SIGN
- WATER GATE
- PROPERTY LINE
- CONCRETE BLOCK WALL
- CURB
- EDGE OF PAVEMENT
- STRIPING
- WATER LINE
- SEWER LINE
- DRAIN LINE
- OVERHEAD WIRES — OHW
- SIDEWALK
- BUILDING
- PAVEMENT

EXISTING

- 150' BUFFER LINE
- WETLAND LINE
- WETLAND FLAG
- FLOODWAY
- MEAN HIGH WATER LINE
- MEAN HIGH WATER FLAG
- 15' NO BUILD LINE
- 100-YR FLOOD LINE
- WATER LINE
- SEWER LINE
- DRAIN LINE
- CURB
- WATER MANHOLE
- SEWER MANHOLE
- UTILITY POLE
- FIRE HYDRANT
- WATER GATE
- GAS GATE
- MONITOR WELL
- CONCRETE
- TIRE STOCKPILE
- BUILDING
- 2' CONTOUR
- 10' CONTOUR
- BIT. CURB
- CHAIN LINK FENCE
- WATER LINE
- SEWER LINE
- GAS LINE
- INVERT

NOTES:

1. WHERE SANITARY SEWERS CROSS WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN. IF THE ELEVATION OF THE SEWER CAN NOT BE VARIED TO MEET THIS REQUIREMENT, THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THIS SEPARATION OR CONSTRUCTED WITH MECHANICAL-JOINT PIPE FOR A DISTANCE OF TEN FEET ON EACH SIDE OF THE SEWER. ONE FULL LENGTH OF WATER MAIN SHALL BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. WHENEVER IT IS IMPOSSIBLE TO OBTAIN VERTICAL SEPARATION AS STIPULATED ABOVE, BOTH THE WATER MAIN AND THE SANITARY SEWER SHALL BE ENCASED IN CONCRETE FOR A MINIMUM DISTANCE OF TEN FEET FROM THE CROSSING POINT OF THE OTHER PIPE AS MEASURED NORMALLY FROM ALL POINTS ALONG THE PIPE.
2. ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM OF FIVE FEET OF COVER AND A MAXIMUM OF EIGHT FEET OF COVER EXCEPT AS NOTED OR DETAILED OTHERWISE.
3. ALL EXISTING UNDERGROUND UTILITIES SERVICES SHALL BE CUT, CAPPED AND SEALED AT THE PROPERTY LINE.
4. PRIVATE UTILITY INFORMATION TO BE COORDINATED WITH APPROPRIATE COMPANY.
5. FOR BENCHMARK SEE EXISTING CONDITIONS PLAN.
6. ALL SEWER LINES SHALL BE 8" PVC SDR 35 @ S=0.005 UNLESS OTHERWISE INDICATED.
7. ALL WATER MAINS TO BE DICL CLASS 52 UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

1223-01A \DWG \DRAWINGS\PARCEL 2 PERMITTING\C-1223-01A.DWG

ISSUED FOR BUILDING PERMIT

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

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DESIGNED BY:	CMQ	CHECKED BY:	RDC

PREPARED BY:

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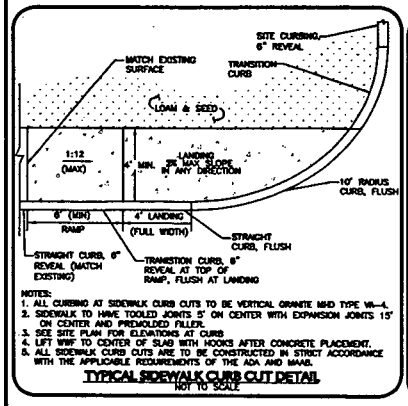
civil engineers • structural engineers
land surveyors • environmental consultants
100 COMMERCE WAY
P.O. BOX 2178
WOBURN, MA 01888-0178
TEL: (781) 935-6889
FAX: (781) 935-2896

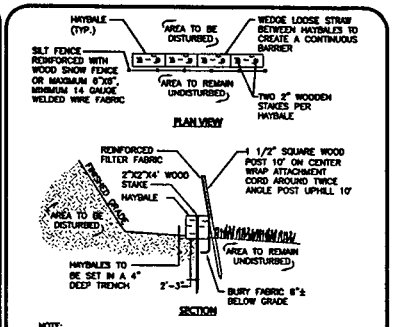
DRAWING TITLE:
PROPOSED UTILITY PLAN

SHEET No.
C-4



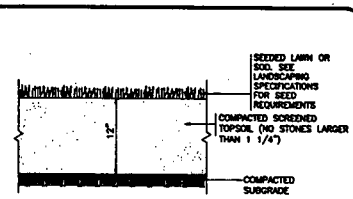
NOTES:
1. ALL CURBING AT SIDEWALK CURB CUTS TO BE VERTICAL GRANITE MHD TYPE VA-4.
2. SIDEWALK TO HAVE TOOLED JOINTS 5' ON CENTER WITH EXPANSION JOINTS 15' ON CENTER AND PREMOLDED FILLER.
3. SEE SITE PLAN FOR ELEVATIONS AT CURB
4. LIFT WWF TO CENTER OF SLAB WITH HOOKS AFTER CONCRETE PLACEMENT.
5. ALL SIDEWALK CURB CUTS ARE TO BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE ADA AND MAAB.

TYPICAL SIDEWALK CURB CUT DETAIL
NOT TO SCALE



NOTE:
DEPTH TO BE 2' UNLESS POST IS TO BE SET IN PEAT THEN 3' OR DEPTH POSSIBLE BY PUSHING BY HAND SHALL BE REQUIRED.

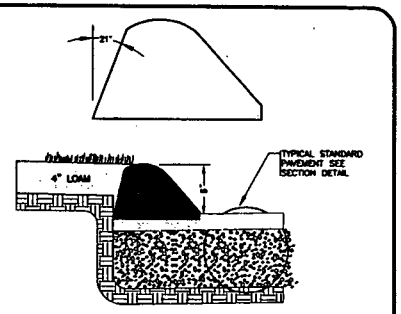
SILT FENCE AND HAYBALE DETAIL
NOT TO SCALE



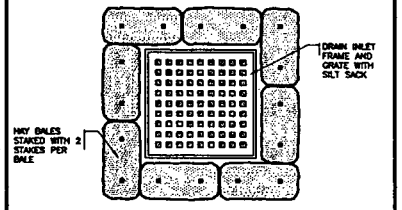
NOTES:
1. TOP OF LOAM (TOPSOIL) IS FINISHED GRADE.
2. TOPSOIL SHALL CONTAIN BETWEEN 5% AND 12% ORGANIC MATTER AND SHALL HAVE A MAXIMUM STONE SIZE OF 1-2" AND SHALL CONFORM TO THE FOLLOWING GRADATION:

SIEVE	% PERCENT PASSING
1-1 INCH	100
No. 4	85-100
No. 40	60-85
No. 100	30-60
No. 200	20-40

SEEDED OR SODDED LAWN DETAIL
NOT TO SCALE

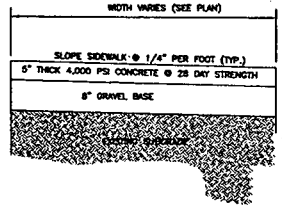


BITUMINOUS CONCRETE CURB
SCALE: N.T.S.



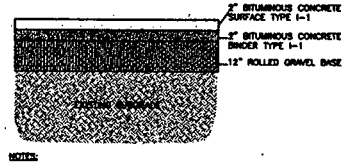
NOTES:
1. HAY BALES SHALL BE POSITIONED IN A ROW SO THAT EACH END TIGHTLY ABUTS THE ADJACENT BALE.
2. BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
3. FREQUENT INSPECTIONS SHALL BE CONDUCTED AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY IF NECESSARY.

TYPICAL HAY BALE FILTER DETAIL
NOT TO SCALE



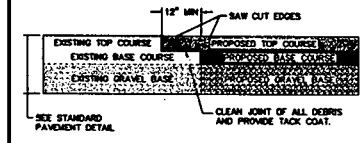
NOTES:
1. SIDEWALK TO HAVE TOOLED JOINTS IN A 5' x 5' (TYP.) GRID WITH EXPANSION JOINTS 15' ON CENTER AND PREMOLDED FILLER.
2. TOOLED JOINT 6" FROM FACE OF CURB
3. SEE PLAN FOR ELEVATIONS AT CURB

CONCRETE SIDEWALK DETAIL
NOT TO SCALE



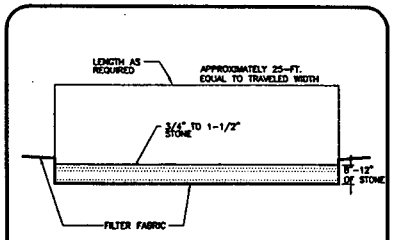
NOTES:
1. NEW STANDARD PAVEMENT SHALL CONSIST OF MASSACHUSETTS HIGHWAY DEPARTMENT CLASS 1, TYPE 1 BITUMINOUS CONCRETE APPLIED IN TWO COURSES, OF THICKNESS AND TYPE DETAILED, OVER A ROLLED GRAVEL BASE COURSE. COMPACT THE UPPER 12" OF PAVEMENT SUBGRADE, THE ROLLED GRAVEL BASE COURSE, PAVEMENT BINDER AND SURFACE COURSES TO 95 PERCENT OF MAXIMUM DENSITY, AS DETERMINED FOR EACH MATERIAL BY THE APPLICABLE TEST METHODS.
2. OWNER'S ENGINEER RESERVES THE RIGHT TO REQUEST COMPACTION TESTS AND/OR CORE SAMPLES. IF TESTS ARE BEYOND THOSE REQUIRED BY THE SPECIFICATIONS AND PROVE CORRECT, PER ABOVE SPECIFICATION, TESTS WILL BE AT THE EXPENSE OF THE OWNER, OTHERWISE THE CONTRACTOR WILL BE RESPONSIBLE FOR TESTING AND RETESTING COSTS.

TYPICAL STANDARD PAVEMENT SECTION AND SPECIFICATION
NOT TO SCALE



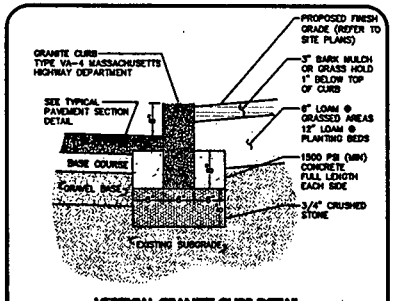
NOTES:
1. TACK COAT - PROVIDE EMULSIFIED ASPHALT WHICH CONFORMS TO THE REQUIREMENTS OF THE STATE SPECIFICATIONS, DILUTED WITH ONE PART WATER TO ONE PART ASPHALT FOLLOWING AASHTO M140/ASTM D977, OR AASHTO M208/ASTM D2397, SS-1H, CSS-1, OR CSS-1H.

PAVEMENT KEY CUT DETAIL
NOT TO SCALE

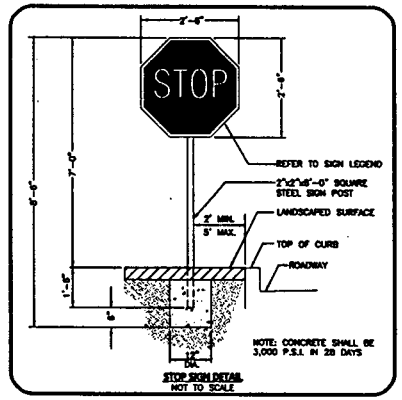


NOTES:
1. INSPECT DAILY TO CHECK SEDIMENT LEVEL.
2. REMOVE ACCUMULATED SILT WHEN IT IS WITHIN 4-IN. OF SURFACE.
3. REPLACE FILTER FABRIC AS NECESSARY TO MAINTAIN FUNCTION.

CONSTRUCTION EXIT
NOT TO SCALE



VERTICAL GRANITE CURB DETAIL
NOT TO SCALE



NOTE: CONCRETE SHALL BE 3,000 P.S.I. IN 28 DAYS

STOP SIGN DETAIL
NOT TO SCALE

1223-01A \CIVIL \DRAWINGS \MAGGI, 2 PERMITTING \C-1223-01A.DWG

ISSUED FOR BUILDING PERMIT
DATED: 09-29-05

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

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TEL: (781) 935-6889
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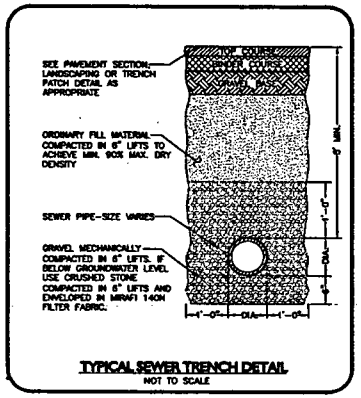
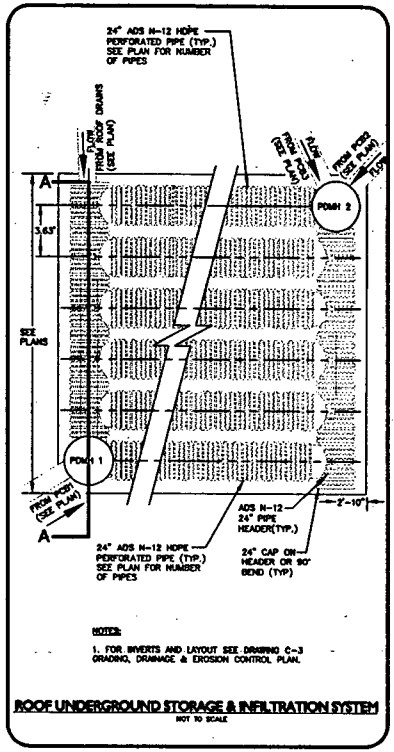
DRAWING TITLE: DETAILS

SHEET No. D-1

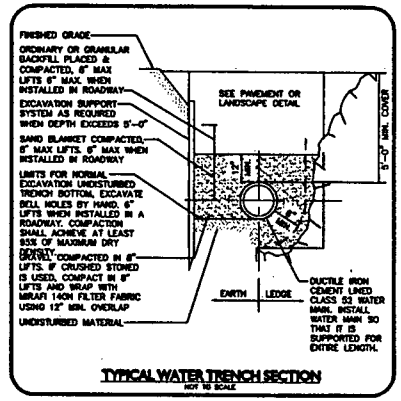


TYPICAL SEWER TRENCH DETAIL
NOT TO SCALE

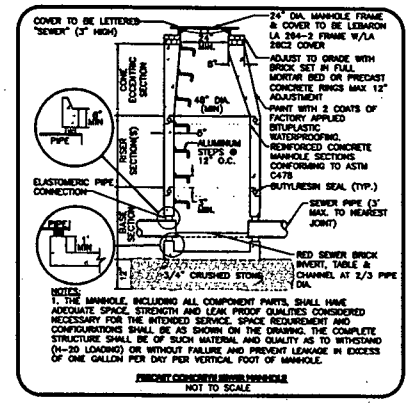


NOTES:
1. FOR INVERTS AND LAYOUT SEE DRAWING C-3 GRADING, DRAINAGE & EROSION CONTROL PLAN.

ROOF UNDERGROUND STORAGE & INFILTRATION SYSTEM
NOT TO SCALE

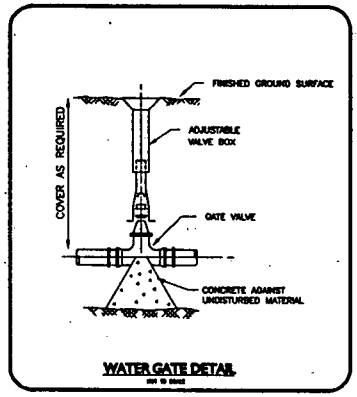


TYPICAL WATER TRENCH SECTION
NOT TO SCALE

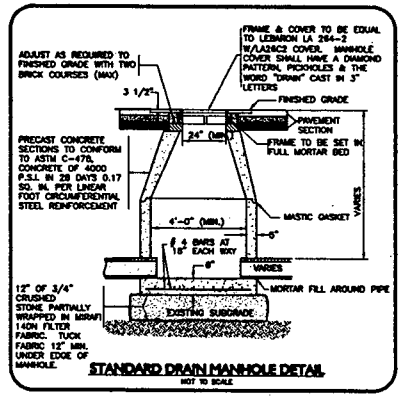


NOTES:
1. THE MANHOLE, INCLUDING ALL COMPONENT PARTS, SHALL HAVE ADEQUATE SPACE, STRENGTH AND LEAK PROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENT AND CONFIGURATIONS SHALL BE AS SHOWN ON THE DRAWING. THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND (H-20 LOADING) OR WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE.

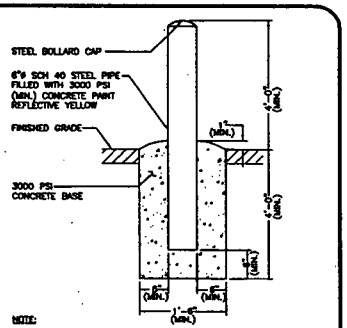
PRECAST CONCRETE DRAIN MANHOLE
NOT TO SCALE



WATER GATE DETAIL
NOT TO SCALE

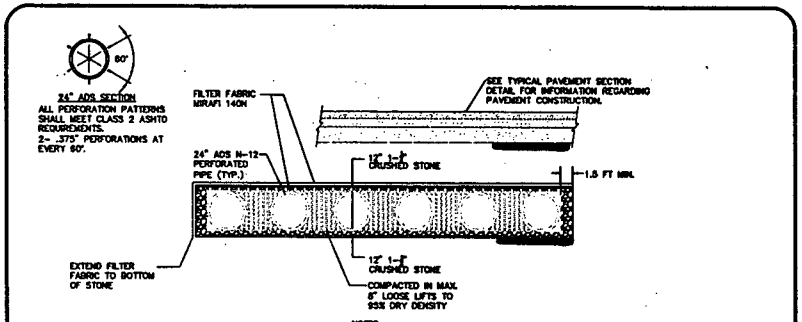


STANDARD DRAIN MANHOLE DETAIL
NOT TO SCALE



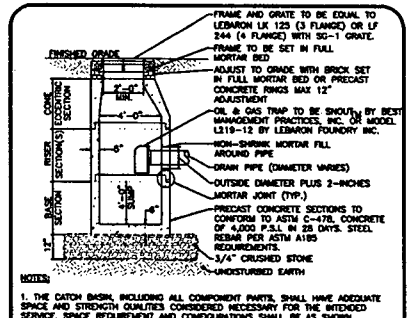
NOTE:
ALL EXPOSED PIPE SHALL BE PAINTED WITH CATALIZED EPOXY PAINT. (COLOR AS DIRECTED BY ENGINEER)A BITUMASTIC COATING SHALL BE APPLIED TO ALL PIPE BELOW GRADE

FIXED BOLLARD DETAIL
NOT TO SCALE



NOTES:
1. ALL 24" ADS N-12 PIPE SHALL BE LAID FLAT
2. SEE DRAWING C-3 FOR ELEVATIONS & GENERAL LAYOUT

UNDERGROUND STORAGE & INFILTRATION SYSTEM - TYPICAL SECTION A-A
NOT TO SCALE



NOTES:
1. THE CATCH BASIN, INCLUDING ALL COMPONENT PARTS, SHALL HAVE ADEQUATE SPACE AND STRENGTH QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENT AND CONFIGURATIONS SHALL BE AS SHOWN ON THE DRAWING. THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND (H-20 LOADING) WITHOUT FAILURE.

DEEP SUMP CATCH BASIN
NOT TO SCALE

1223-01A\CIVIL\DRAWINGS\PARCEL 2 PERMITTING\C-1223-01A.DWG

ISSUED FOR BUILDING PERMIT
MARCH 15, 2005

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

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200 CUMMINGS WAY
P.O. BOX 2130
WOBURN, MA 01888-8130
TEL: (781) 935-6889
FAX: (781) 935-2896

DRAWING TITLE: DETAILS

SHEET No. D-2

ATTACHMENT 1

USEPA LETTER TO 280 SALEM STREET LLC, MAY 7, 2004

RE: Planned Redevelopment of 278-280 Salem Street, Woburn, MA
(Former Aberjona Auto Parts Facility)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

May 7, 2004

280 Salem Street LLC
c/o Robert Holland
1 Winning Road
North Billerica, MA 01862

Re: Wells G&H Superfund Site, Woburn, MA
Planned Redevelopment of 278-280 Salem Street, Woburn, MA (former Aberjona Auto Parts facility)

Dear Mr. Holland:

I am writing in response to concerns you raised at a meeting on August 22, 2003, with my staff and others concerning the former Aberjona Auto Parts facility. As you know, the former Aberjona Auto Parts facility at 278-280 Salem Street in Woburn, MA (the "Property"), is located within the Wells G&H Superfund Site in Woburn, MA (the "Wells G&H Superfund Site" or the "Site"). The United States Environmental Protection Agency ("EPA") is overseeing the performance of a Remedial Investigation/Feasibility Study at the Property, under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. § 9601, *et seq.*

As I understand it, 280 Salem Street LLC (Salem Street) acquired title to the Property on or about October 23, 2001. At this time, Salem Street is planning to construct one or more hockey rinks at the Property, and you have asked whether EPA has technical concerns about your proposed reuse of the Property. Specifically, you have indicated that your proposal for reuse of the Property includes: the removal of all junked automobiles and other vehicles and parts from the Property; shallow excavations (less than 15 feet below ground surface) for the installation of underground utilities and construction of a detention basin and building/rink foundation; minor grading for pavement and parking; fence installation around the perimeter; and construction of the building and rinks in accordance with state and local requirements. You also have indicated that the hockey rinks will rely on municipal water provided by the City of Woburn.

EPA further understands that you have hired a licensed site professional, licensed under Massachusetts law, who will assist you in ensuring that your redevelopment complies with federal and state environmental requirements. Specifically, you have hired Mr. Samuel Butcher

of Goldman Environmental, 60 Brooks Drive, Braintree, Massachusetts, as the licensed site professional to oversee your redevelopment.

Based on the information you have provided and EPA's investigation of the Property to date, our comments and recommendations are provided below.

Description of the Property

The Property is approximately 6.6 acres in size. The Aberjona Auto Parts facility operated on the Property from approximately 1950 to the late 1990s as an automotive reclamation, used part and car storage center with an attached automobile service station. A gas station also operated at the facility from approximately 1950 to 1960. As part of the automotive reclamation process, the facility also conducted degreasing operations to clean used parts. Currently, hundreds of junked cars remain on the Property, and only the automobile service station continues to operate on the Property. The reclamation and car storage operations ceased in the late 1990s.

The Wells G&H Superfund Site

In 1979, volatile organic compounds (VOCs), e.g. trichloroethene (TCE) and tetrachloroethylene (PCE), were discovered at the City of Woburn's production wells G and H, and the City immediately shut down the wells. This discovery lead to EPA placing the Wells G&H Superfund Site on the National Priorities List on September 8, 1983. The National Priority List contains those sites or other releases which appear to warrant remedial actions by EPA.

The Site is approximately 330 acres in Woburn, MA, and generally bounded by Route 128 to the north, Salem and Cedar Street to the south, MBTA right of way to the west, and Interstate 93 to the east. At the Site, groundwater is contaminated with VOCs (e.g. TCE and PCE), soils with polycyclic aromatic hydrocarbons (PAHs), polychlorinated byphynels (PCBs), VOCs, and pesticides, and sediments with PAHs and metals. Five source areas were previous identified at the Site. Under a 1991 Consent Decree, cleanup activities are being implemented at four of the five source areas. Cleanup activities are being negotiated at the fifth source area. Additional Remedial Investigations are underway for other areas of the Site (including this Property as part of the Southwest Properties, the Aberjona River, and the remaining portions of the aquifer not already addressed by the five source areas) which will lead to future cleanup decisions.

Status of Investigation of Property

EPA has not yet selected a remedy for the portion of the Site which includes the Property. Pursuant to a Consent Decree, a group of Potentially Responsible Parties ("Settling PRPs") is currently performing a Remedial Investigation/Feasibility Study at the Property, as well as other areas of the Site. EPA is currently reviewing the Settling PRPs' Supplemental Remedial Investigation Report for the Southwest Properties, which identifies the presence of VOCs (e.g.

TCE, PCE, cis-1,2-dichloroethene, and vinyl chloride), as well as other compounds, in groundwater underneath the Property.

At the time that you met with my staff in August 2003, EPA's contractor was preparing a Baseline Risk Assessment ("BRA") to evaluate human health and environmental risks at the Property and two other adjacent properties (collectively known as the "Southwest Properties"). The BRA for the Southwest Properties has been completed, and was provided to you on April 14, 2004. In addition, the Aberjona River Study BRA (performed by EPA's contractor) for surface water and sediments along the Aberjona River was provided to you on April 15, 2004. The conclusions provided in both BRAs are as follows: (1) the levels of contamination detected in the soils on the Property are low and appear not to pose a risk in excess of EPA's risk range; (2) the levels of contamination in shallow groundwater (less than 15 feet below the ground surface) underlying the Property appear not to pose a risk to construction workers in excess of EPA's risk range; (3) the levels of contamination in groundwater underlying the Property exceed drinking water standards; and (4) the levels of contamination in sediments at sediment stations WS and 10 on the east side of the Property along the Aberjona River are high and may pose a risk to the environment in excess of EPA's risk range (see EPA's April 15, 2004 Aberjona River correspondence and figure for station locations).

Recommendations

Given that your planned reuse of the Property will not rely on the use of the groundwater underlying the Property or disturbance of sediments at stations WS and 10, and that you do not plan to excavate 15 feet below the ground surface, EPA does not believe that the conditions at the Property as currently characterized would restrict you from proceeding with your hockey rink proposal as described above. However, due to EPA's continuing investigation of the Property, and the presence of hazardous substance contamination at the Property, EPA is requesting that you undertake the following additional actions:

- Grant EPA, the Massachusetts Department of Environmental Property ("DEP") and their representatives voluntary access to the Property for on-going and future remedial activities (e.g. additional investigations, installation of additional monitoring wells, sampling, remedial actions, etc.) (A separate letter requesting access to the Property is enclosed);

- Cooperate with EPA and DEP regarding future remedial activities, including the potential application of institutional controls on the Property (e.g. groundwater use restrictions).

- Preserve and maintain all existing and future monitoring wells on the Property;

- Replace at your sole expense any existing and/or future monitoring well(s) on the Property damaged during the construction phase or operations of the proposed reuse with

an equivalent monitoring well(s), after notifying EPA and DEP of the damage and receiving written EPA approval for the replacement;

- Do not remove any existing or future monitoring well(s) from the Property unless approved by EPA in writing. If approved by EPA, you shall replace at your sole expense any monitoring well(s) removed from the Property with an equivalent monitoring well(s) at a location approved by EPA in writing;

- Do not extract groundwater for any use;

- If groundwater is withdrawn from shallow excavations (less than 15 feet below ground surface) during construction, you must ensure that contaminated groundwater, and any other contaminated materials, are managed, stored and/or disposed of appropriately in accordance with state and federal law;

- Along the east side of the Property, avoid disturbance of sediments along the Aberjona River, particularly at sediment stations WS and 10, including designing and constructing the facility to meet all applicable federal, state, and local flood plain protection, surface runoff, and sedimentation and erosion control standards;

- Obtain all required federal, state and local permits and approvals for the project;

- If you become aware of any action or occurrence which causes or threatens a release of hazardous substances, pollutants or contaminants at or from the Property (e.g., if any suspicious materials such as drums or containers are unexpectedly discovered during construction), you should immediately take all appropriate action to prevent, abate, or minimize such release or threat or release, and, in addition to complying with any applicable notification requirements under Section 103 of CERCLA, 42 U.S.C. § 9603, or any other law, immediately notify your licensed site professional, EPA and DEP;

- Notify all contractors, subcontractors, lessees and any other parties operating at the Property of this letter, and ensure that these parties satisfy the requirements set forth in this letter;

- Provide EPA and DEP with copies of any environmental data collected at the Property during redevelopment activities;

- Provide EPA and DEP with written monthly progress summaries during construction, and continue coordination with EPA and DEP until construction has been completed; and

- Provide EPA and DEP a copy of the final reuse design plans before proceeding with construction, and as-built drawings at the completion of construction.

EPA wishes to emphasize that the implementation of response actions at the Site (including but not limited to work required to complete any Remedial Investigation/Feasibility Study and work required to implement any Record of Decision which will be issued be for the Site) may interfere with your use of the Property, and may require closure of your operations or a part thereof. EPA will, consistent with its responsibilities under applicable law, use reasonable efforts to minimize any interference with your operations by such entry and response. Furthermore, EPA reserves the right to modify these conditions in the event it receives additional information regarding existing contamination or information concerning new contamination associated with future activities conducted on the property.

Lastly, this letter does not provide a release from CERCLA liability, but only provides technical information and recommendations relating to the proposed reuse of the Property, based on the information EPA has available to it. EPA reserves its rights to take enforcement actions with respect to the Property, including actions based on your status as current owner of the Property. EPA requests that you cooperate with EPA in any future response and enforcement actions with respect to the Property.

I hope that this letter responds to your technical concerns concerning your proposed reuse of the Property. If you should have any questions regarding this letter, please contact Joseph LeMay the Remedial Project Manager for the Site at (617) 918-1323 regarding any technical questions, and David Peterson, Senior Enforcement Counsel, at (617) 918-1891 regarding any legal questions.

Sincerely,

Susan Studlien

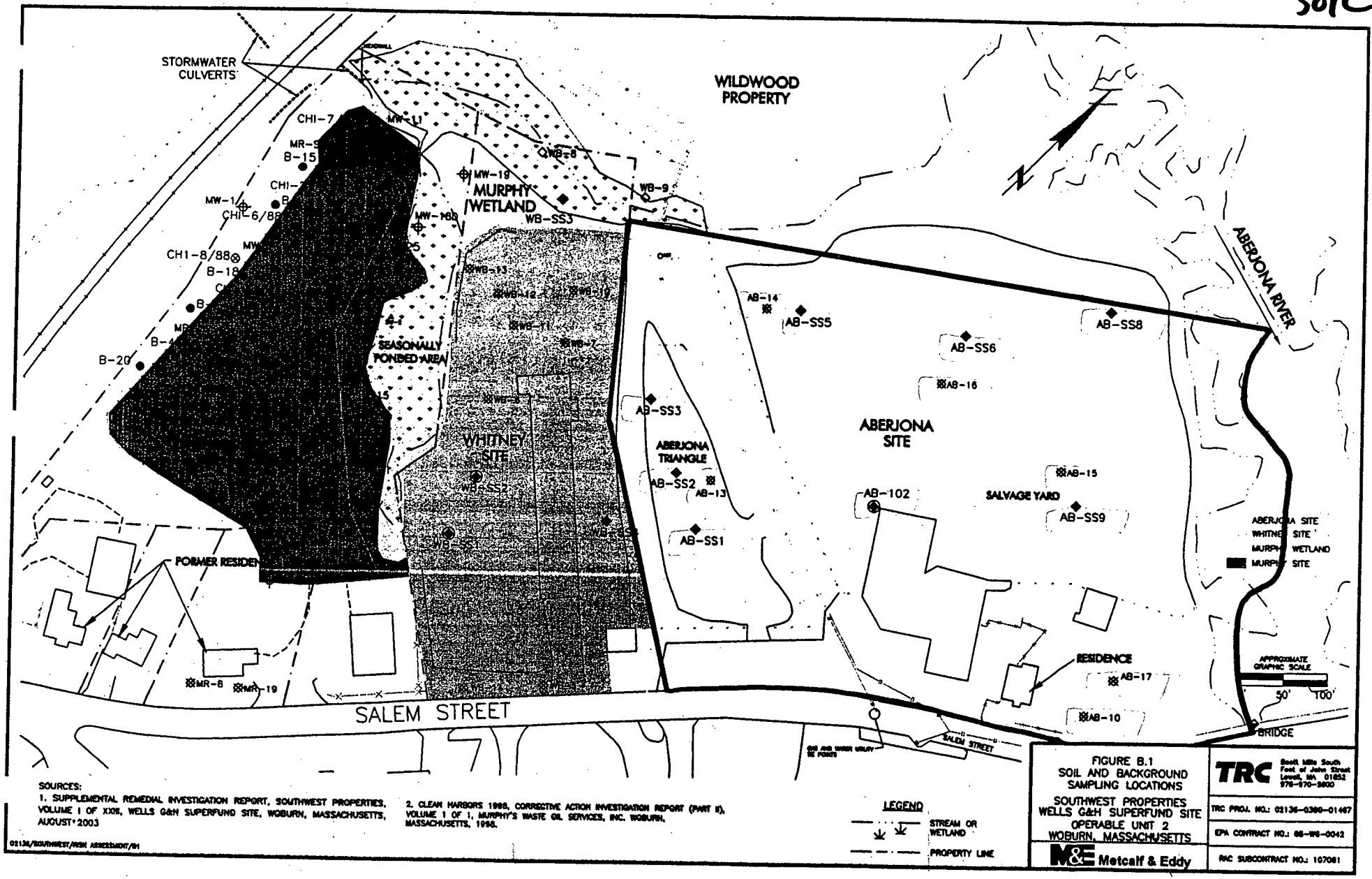
Susan Studlien, Director
Office of Site Remediation & Restoration

Enclosures

cc: Robert Cianciarulo, EPA
Joseph F. LeMay, EPA
David Peterson, EPA
Mary Jane O'Donnell, EPA
Gretchen Muench, EPA
Anna Mayor, DEP
Diane Silverman, M&E
David Sullivan, TRC
John Kelley, 280 Salem Street LLC

ATTACHMENT 2

SOIL DATA: SAMPLING PLAN AND SUMMARY TABLES



SOURCES:

1. SUPPLEMENTAL REMEDIAL INVESTIGATION REPORT, SOUTHWEST PROPERTIES, VOLUME I OF XXII, WELLS G&H SUPERFUND SITE, WOBURN, MASSACHUSETTS, AUGUST 2003

2. CLEAN HARBORS 1998, CORRECTIVE ACTION INVESTIGATION REPORT (PART II), VOLUME 1 OF 1, MURPHY'S WASTE OIL SERVICES, INC. WOBURN, MASSACHUSETTS, 1998.

02136/SOUTHWEST/RISK ASSESSMENT/01

FIGURE 8.1
SOIL AND BACKGROUND SAMPLING LOCATIONS
SOUTHWEST PROPERTIES
WELLS G&H SUPERFUND SITE
OPERABLE UNIT 2
WOBURN, MASSACHUSETTS

Metcalf & Eddy

TRC
Scott Mills South
Foot of John Street
Lowell, MA 01852
978-970-3600

TRC PROJ. NO.: 02136-0300-01467

EPA CONTRACT NO.: 68-W6-0042

RAC SUBCONTRACT NO.: 107081

Table 5-1
Surface Soil Volatile Organic Compounds
Southwest Properties
Wells G RI/FS
September 1993

Compounds	ABERJONA AUTO PARTS										WHITNEY BARREL			
	AB-SS1	AB-SS2	AB-SS3	AB-SS4	AB-SS5	AB-SS6	AB-SS7	AB-SS8	AB-SS9	DUP-LAB	WB-SS1	WB-SS2	WB-SS3	WB-SS4
Chloromethane	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025	< 0.0026 U	< 0.0026	< 0.0026	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
Bromomethane	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	0.0024 J	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
Vinyl Chloride	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
Chloroethane	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
Methylene Chloride	0.0139 UJ	0.0056 UJ	0.0156 UJ	0.0155 UJ		0.0160 UJ	0.0142 UJ	0.0300 UJ	0.026 UJ	0.0210 UJ	0.0329 UJ	0.0446 UJ	0.0345 UJ	0.0381 UJ
Acetone	0.0069 UJ	0.0051 UJ	0.0063 UJ	0.0091 UJ		0.0090 UJ	0.0144 UJ	0.0330 UJ	0.023 UJ	0.0110 UJ	0.0214 UJ	0.0436 UJ	0.0097 UJ	0.0639 UJ
Carbon Disulfide	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0028 U	< 0.0026	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
1,1-Dichloroethene	0.0012 J	0.0011 J	< 0.0028 U	0.0011 J	0.0048	0.0017 J	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	0.0016 J
1,1-Dichloroethane	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
1,2-Dichloroethene (total)	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
Chloroform	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
1,2-Dichloroethane	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
2-Butanone	0.0106 UJ	0.0047 UJ	0.0053 UJ	0.0057 UJ	0.0319	0.0061 UJ	0.0046 UJ	0.0058 UJ	0.0057 UJ	0.0052 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
1,1,1-Trichloroethane	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
Carbon Tetrachloride	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
Bromodichloromethane	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
1,2-Dichloropropane	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
cis-1,3-Dichloropropene	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
Trichloroethene	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
Dibromochloromethane	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
1,1,2-Trichloroethane	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
Benzene	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
trans-1,3-Dichloropropene	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	0.0031	< 0.0028 U	0.0006 J
Bromoform	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
4-Methyl-2-Pentanone	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025	< 0.0026 U	< 0.0026	< 0.0026	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
2-Hexanone	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 UJ	< 0.0025 UJ	< 0.0028 UJ	< 0.0029 UJ
Tetrachloroethene	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
1,1,2,2-Tetrachloroethane	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	< 0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
Toluene	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	0.0223	< 0.0025 U	< 0.0026 U	0.0014 J	< 0.0026 U	< 0.0026 U	0.0007 J	0.0066	0.0008 J	0.0015 J
Chlorobenzene	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	0.0133	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
Ethylbenzene	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	0.0160	< 0.0025 U	< 0.0026 U	0.0015 J	< 0.0026 U	< 0.0026 U	0.0008 J	0.0114	0.0008 J	< 0.0029 U
Styrene	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U	0.0027	< 0.0025 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0027 U	< 0.0025 U	< 0.0028 U	< 0.0029 U
Xylene (total)	< 0.0027 U	< 0.0027 U	< 0.0028 U	< 0.0030 U		< 0.0025 U	< 0.0026 U	0.0060	< 0.0026 U	< 0.0026 U	0.0008 J	0.0084	0.0013 J	< 0.0029 U

Notes:
DUP-LAB is a duplicate sample of AB-SS9
All values in mg/kg

Table 5-1
Surface Soil Volatile Organic Compounds
Southwest Properties
Wells G RI/FS
September 1993

Compounds	MURPHY WASTE OIL						QA/QC SAMPLES						
	MR-SS1	MR-SS2	MR-SS3	[redacted]			FIELD BLK	FB99	FIELD BLK	TRIP BLK	TB-1	TB-2	TRIP BLK
Chloromethane	< 0.0025 [redacted]	< 0.0024 [redacted]	< 0.0025 [redacted]	< 0.0070 U	< 0.0030 U	< 0.0076 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Bromomethane	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Vinyl Chloride	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Chloroethane	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Methylene Chloride	[redacted] 0.0160 UJ	[redacted] 0.0510 UJ	[redacted] 0.0530 UJ	[redacted] UJ	[redacted]	[redacted]	[redacted] 0.0240 U	[redacted] 0.0036 UJ	[redacted] 0.0193 UJ	[redacted] 0.0141 UJ	[redacted] 0.0065 U	[redacted] 0.0165 U	[redacted] 0.0050 UJ
Acetone	[redacted] 0.0080 UJ	[redacted] 0.0070 UJ	[redacted] 0.0110 UJ	[redacted] UJ	[redacted]	[redacted]	[redacted] 0.0230 U	[redacted] 0.0063 UJ	[redacted] 0.0240 U	[redacted] 0.0243 U	[redacted] 0.0065 U	[redacted] 0.0260 U	[redacted] 0.0097 UJ
Carbon Disulfide	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
1,1-Dichloroethene	< 0.0025 U	[redacted] 0.0008 J	[redacted] 0.0011 J	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
1,1-Dichloroethane	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	[redacted] 0.0020 J	< 0.0020 U	< 0.0020 U
1,2-Dichloroethene (total)	< 0.0025 U	[redacted] 0.0049	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Chloroform	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
1,2-Dichloroethane	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
2-Butanone	< 0.0025 UJ	[redacted] 0.0051 UJ	[redacted] 0.0058 UJ	[redacted] U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
1,1,1-Trichloroethane	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	[redacted] 0.0038	[redacted] 0.0022 UJ	< 0.0020 U	< 0.0020 U	[redacted] 0.0022 U	[redacted] 0.0029	[redacted] 0.0032 U
Carbon Tetrachloride	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Bromodichloromethane	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
1,2-Dichloropropane	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
cis-1,3-Dichloropropene	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Trichloroethene	< 0.0025 U	[redacted] 0.0018 J	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Dibromochloromethane	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
1,1,2-Trichloroethane	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Benzene	< 0.0025 U	< 0.0024 U	[redacted] 0.0006 J	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
trans-1,3-Dichloropropene	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Bromoform	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
4-Methyl-2-Pentanone	< 0.0025 UJ	< 0.0024 UJ	< 0.0025 UJ	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
2-Hexanone	< 0.0025 [redacted]	< 0.0024 [redacted]	< 0.0025 [redacted]	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Tetrachloroethene	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
1,1,2,2-Tetrachloroethane	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Toluene	[redacted] 0.0013 J	[redacted] 0.0012 J	[redacted] 0.0077	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Chlorobenzene	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Ethylbenzene	[redacted] 0.0016 J	< 0.0024 U	[redacted] 0.0037	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Styrene	< 0.0025 U	< 0.0024 U	< 0.0025 U	< 0.0070 U	[redacted]	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Xylene (total)	[redacted] 0.0152	[redacted] 0.0043	[redacted] 0.0196	< 0.0070 U	< 0.0030 U	[redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< [redacted] U	< 0.0020 U	< 0.0020 U	< 0.0020 U

Notes:
DUP-LAB is a duplicate sam
All values in mg/kg

Table 5-2
Surface Soil Semivolatile Organic Compounds
Southwest Properties
Wells G RI/FS
September 1993

Compounds	ABERJONA AUTO PARTS											WHITNEY BARREL			
	AB-SS1	AB-SS2	AB-SS3	AB-SS4	AB-SS5	AB-SS6	AB-SS7	AB-SS8	AB-SS9	DUP-LAB	WB-SS1	WB-SS2	WB-SS3	WB-SS4
Phenol	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
bis(2-chloroethyl)ether	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
2-Chlorophenol	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
1,3-Dichlorobenzene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
1,4-Dichlorobenzene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
1,2-Dichlorobenzene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
2-Methylphenol	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
2,2'-oxybis(1-Chloropropane)	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
4-Methylphenol	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
N-Nitroso-di-n-propylamine	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	0.036 J	< 0.392 U	< 0.388 U
Hexachloroethane	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
Nitrobenzene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
Isophorone	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
2-Nitrophenol	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
2,4-Dimethylphenol	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
bis(2-chloroethoxy)methane	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
2,4-Dichlorophenol	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
1,2,4-Trichlorobenzene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
Naphthalene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
4-Chloroaniline	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	[redacted] 0.760 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
Hexachlorobutadiene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
4-Chloro-3-methylphenol	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	0.394	< 0.392 U	< 0.388 U
2-Methylnaphthalene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
Hexachlorocyclopentadiene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
2,4,6-Trichlorophenol	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	1.418	0.036 J	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
2,4,5-Trichlorophenol	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
2-Chloronaphthalene	< 0.928 U	< 0.896 U	< 0.958 U	< 1.029 U	< 1.773 U	< 0.877 U	< 0.896 U	< 0.868 U	< 0.887 U	< 0.868 U	< 0.906 U	< 0.896 U	< 0.980 U	< 0.969 U
2-Nitroaniline	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
Dimethylphthalate	< 0.928 U	< 0.896 U	< 0.958 U	< 1.029 U	< 1.773 U	< 0.877 U	< 0.896 U	< 0.868 U	< 0.887 U	< 0.868 U	< 0.906 U	< 0.896 U	< 0.980 U	< 0.969 U
Acenaphthylene	< 0.370 U	< 0.358 U	< 0.383 U	0.041 J	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
2,6-Dinitrotoluene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	0.142 J	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
3-Nitroaniline	< 0.928 U	< 0.896 U	< 0.958 U	< 1.029 U	< 1.773 U	< 0.877 U	< 0.896 U	< 0.868 U	< 0.887 U	< 0.868 U	< 0.906 U	< 0.896 U	< 0.980 U	< 0.969 U
Acenaphthene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
2,4-Dinitrophenol	< 0.928 U	< 0.896 U	< 0.958 U	< 1.029 U	< 1.773 U	< 0.877 U	< 0.896 U	< 0.868 U	< 0.887 U	< 0.868 U	< 0.906 U	< 0.896 U	< 0.980 U	< 0.969 U
4-Nitrophenol	< 0.928 U	< 0.896 U	< 0.958 U	< 1.029 U	0.671 J	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
Dibenzofuran	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
2,4-Dinitrotoluene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	0.142 J	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
Diethylphthalate	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
4-Chlorophenyl-phenylether	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
Fluorene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
4-Nitroaniline	< 0.928 U	< 0.896 U	< 0.958 U	< 1.029 U	0.142 J	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
4,6-Dinitro-2-methylphenol	< 0.928 U	< 0.896 U	< 0.958 U	< 1.029 U	< 1.773 U	< 0.877 U	< 0.896 U	< 0.868 U	< 0.887 U	< 0.868 U	< 0.906 U	< 0.896 U	< 0.980 U	< 0.969 U
N-Nitrosodiphenylamine (1)	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
4-Bromophenyl-phenylether	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
Hexachlorobenzene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
Pentachlorophenol	< 0.928 U	< 0.896 U	< 0.958 U	< 1.029 U	< 1.773 U	< 0.877 U	< 0.896 U	< 0.868 U	< 0.887 U	< 0.868 U	< 0.906 U	< 0.896 U	< 0.980 U	< 0.969 U
Phenanthrene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	1.277 J	0.036 J	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
Anthracene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	0.264 J	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
Carbazole	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	< 0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
Di-n-butylphthalate	0.074 J	0.108 J	0.036 J	0.123 J	0.142 J	0.211 J	0.072 J	0.111 J	< 0.355 U	0.104 J	0.108 J	0.108 J	< 0.392 U	< 0.388 U
Fluoranthene	0.097 J	0.072 J	0.077 J	0.062 J	1.702 J	0.070 J	0.108 J	< 0.347 U	< 0.355 U	< 0.347 U	0.036 J	< 0.358 U	< 0.392 U	< 0.388 U
Pyrene	0.074 J	0.072 J	0.116 J	0.062 J	1.277	0.140 J	0.072 J	< 0.347 U	< 0.355 U	< 0.347 U	0.036 J	0.036 J	< 0.392 U	< 0.388 U
Butylbenzylphthalate	0.593	0.573	0.036 J	0.266 J	0.638 J	0.211 J	0.072 J	< 0.347 U	< 0.355 U	0.069 J	0.362	0.466	0.678 J	< 0.388 U
3,3'-Dichlorobenzidine	< 0.370 UJ	< 0.358 UJ	< 0.383 UJ	< 0.412 UJ	< 0.709 U	< 0.351 UJ	< 0.358 UJ	< 0.347 UJ	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
Benzo(a)anthracene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	1.084	0.070 J	0.036 J	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 UJ	< 0.358 UJ	< 0.392 UJ	< 0.388 UJ
Chrysene	< 0.370 U	< 0.358 U	0.069 J	0.412 U	1.468	0.105 J	0.072 J	< 0.347 U	< 0.355 U	< 0.347 U	0.181 J	0.466	< 0.392 U	< 0.388 U
bis(2-ethylhexyl)phthalate	1.111 U	< 0.358 U	0.077 J	0.412 U	2.624 U	< 0.947 UJ	< 0.358 U	< 0.347 U	< 0.355 U	0.069 J	0.254 J	0.394	< 0.392 U	< 0.388 U
Di-n-octylphthalate	0.776	< 0.358 U	< 0.383 U	< 0.412 U	0.071 J	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	0.764 U	< 0.362 U	0.783 U	29.216	< 0.388 U
Benzo(b)fluoranthene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	1.580	0.140 J	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	< 0.362 U	< 0.358 U	< 0.392 U	< 0.388 U
Benzo(k)fluoranthene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	1.084	0.070 J	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	0.254 J	0.666	0.639 J	< 0.388 U
Benzo(a)pyrene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	1.084	0.070 J	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	0.169 J	0.466	< 0.392 U	< 0.388 U
Indene(1,2,3-cd)pyrene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	1.084	0.175 J	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	0.161 J	0.783	< 0.392 U	< 0.388 U
Dibenz(a,h)anthracene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	0.709 U	< 0.351 U	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	0.161 J	0.666	0.678 J	< 0.388 U
Benzo(g,h,i)perylene	< 0.370 U	< 0.358 U	< 0.383 U	< 0.412 U	1.206	0.246 J	< 0.358 U	< 0.347 U	< 0.355 U	< 0.347 U	0.191 J	0.666	0.167 J	< 0.388 U

Table 5-2
Surface Soil Semivolatile Organic Compounds
Southwest Properties
Wells G RI/FS
September 1993

Compounds	MURPHY WASTE OIL					
	MR-651	MR-652	MR-653	[redacted]	[redacted]	[redacted]
Phenol	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
bis(2-chloroethyl)ether	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
2-Chlorophenol	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
1,3-Dichlorobenzene	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
1,4-Dichlorobenzene	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
1,2-Dichlorobenzene	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
2-Methylphenol	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
2,2'-oxybis(1-Chloropropane)	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 UJ	< 0.427 UJ	< 1.075 [redacted]
4-Methylphenol	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
N-Nitroso-di-n-propylamine	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
Hexachloroethane	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
Nitrobenzene	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
Isophorone	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
2-Nitrophenol	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
2,4-Dimethylphenol	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
bis(2-chloroethoxy)methane	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
2,4-Dichlorophenol	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
1,2,4-Trichlorobenzene	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
Naphthalene	< 0.340 U	[redacted] U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
4-Chloroaniline	< 0.340 UJ	< 0.351 UJ	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
Hexachlorobutadiene	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
4-Chloro-3-methylphenol	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
2-Methylnaphthalene	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
Hexachlorocyclopentadiene	< 0.340 U	0.836 J	0.869 J	< 1.010 U	< 0.427 U	< 1.075 U
2,4,6-Trichlorophenol	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
2,4,5-Trichlorophenol	< 0.850 U	< 0.877 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
2-Chloronaphthalene	< 0.340 U	< 0.351 U	< 0.859 U	< 2.525 U	< 1.068 U	< 2.688 [redacted]
2-Nitroaniline	< 0.850 U	< 0.877 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
Dimethylphthalate	< 0.340 U	< 0.351 U	< 0.859 U	< 2.525 U	< 1.068 U	< 2.688 U
Acenaphthylene	< 0.340 U	0.879 J	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
2,6-Dinitrotoluene	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	0.648 J	< 1.075 U
3-Nitroaniline	< 0.850 U	< 0.877 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
Acenaphthene	< 0.340 U	0.876 J	< 0.859 UJ	< 2.525 UJ	< 1.068 UJ	< 2.688 UJ
2,4-Dinitrophenol	< 0.850 U	< 0.877 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
4-Nitrophenol	< 0.850 U	< 0.877 U	< 0.859 U	< 2.525 U	< 1.068 U	< 2.688 U
Dibenzofuran	< 0.340 U	0.836 J	< 0.859 U	< 2.525 U	< 1.068 U	< 2.688 U
2,4-Dinitrotoluene	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
Diethylphthalate	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
4-Chlorophenyl-phenylether	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
Fluorene	< 0.340 U	0.879 J	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
4-Nitroaniline	< 0.850 U	< 0.877 U	< 0.859 U	< 2.525 U	< 1.068 U	< 2.688 U
4,6-Dinitro-2-methylphenol	< 0.850 U	< 0.877 U	< 0.859 U	< 2.525 U	< 1.068 U	< 2.688 U
N-Nitrosodiphenylamine (1)	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
4-Bromophenyl-phenylether	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
Hexachlorobenzene	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
Pentachlorophenol	< 0.850 U	< 0.877 U	< 0.859 U	< 2.525 U	< 1.068 U	< 2.688 U
Phenanthrene	0.034 J	0.772 U	0.276 J	0.502 J	0.128 J	0.323 J
Anthracene	< 0.340 U	0.149 J	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
Carbazole	< 0.340 U	0.879 J	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
Di-n-butylphthalate	< 0.340 U	0.879 J	< 0.344 U	0.484 J	0.128 J	< 1.075 U
Fluoranthene	0.068 J	1.193	0.378	0.308 J	0.214 J	0.860 J
Pyrene	0.068 J	1.158	0.344	0.302 J	0.171 J	0.753 J
Butylbenzylphthalate	< 0.340 U	0.035 J	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
3,3'-Dichlorobenzidine	< 0.340 UJ	< 0.351 UJ	< 0.344 UJ	< 1.010 UJ	< 0.427 UJ	< 1.075 UJ
Benzo(a)anthracene	< 0.340 U	0.782	0.172 J	0.191 J	0.128 J	0.323 J
Chrysene	< 0.340 U	0.812	0.209 U	0.202 J	0.214 J	0.538 J
bis(2-ethylhexyl)phthalate	0.442 U	< 0.351 U	< 0.344 U	0.651 J	[redacted] U	< 1.075 U
Di-n-octylphthalate	< 0.340 U	< 0.351 U	< 0.344 U	< 1.010 U	< 0.427 U	< 1.075 U
Benzo(b)fluoranthene	< 0.340 U	1.018	0.378 U	< 1.010 U	0.171 J	0.753 J
Benzo(k)fluoranthene	< 0.340 U	0.586	0.209 J	< 1.010 U	0.085 J	0.430 J
Benzo(a)pyrene	< 0.340 U	0.837	0.209 J	< 1.010 U	0.085 J	0.323 J
Indeno(1,2,3-cd)pyrene	< 0.340 U	0.708	0.209 J	< 1.010 U	0.085 J	0.323 J
Dibenz(a,h)anthracene	< 0.340 U	0.149 J	0.209 J	< 1.010 U	< 0.427 U	< 1.075 U
Benzo(g,h,i)perylene	< 0.340 U	0.797	0.276 J	< 1.010 U	0.085 J	0.430 J

Table 5-3
Surface Soil Pesticides/PCBs
Southwest Properties
Wells G R/FS
September 1993

Compounds	ABERJONA AUTO PARTS										WHITNEY BARREL			
	AB-SS1	AB-SS2	AB-SS3	AB-SS4	AB-SS5	AB-SS6	AB-SS7	AB-SS8	AB-SS9	DUP-LAB	WB-SS1	WB-SS2	WB-SS3	WB-SS4
alpha-BHC	< 0.0018 U	< 0.0018 U	< 0.0019 U	< 0.0020 U	< 0.0018 U	< 0.0017 U	< 0.0018 U	< 0.0017 U	< 0.0018 U	< 0.0017 U	< 0.0018 U	< 0.0018 U	< 0.0020 U	< 0.0019 U
beta-BHC	< 0.0018 U	< 0.0018 U	< 0.0019 U	< 0.0020 U	< 0.0018 U	< 0.0017 U	< 0.0018 U	< 0.0017 U	< 0.0018 U	< 0.0017 U	< 0.0018 UJ	< 0.0018 [redacted]	< 0.0020 [redacted]	< 0.0019 [redacted]
delta-BHC	< 0.0018 U	< 0.0018 U	< 0.0019 U	< 0.0020 U	< 0.0018 U	< 0.0017 U	< 0.0018 U	< 0.0017 U	< 0.0018 U	< 0.0047	< 0.0018 U	< 0.0018 U	< 0.0020 U	< 0.0019 U
gamma-BHC	< 0.0018 UJ	< 0.0018 UJ	< 0.0019 UJ	< 0.0020 UJ	< 0.0018 U	< 0.0017 U	< 0.0018 U	< 0.0017 U	< 0.0018 U	< 0.0017 U	< 0.0018 UJ	< 0.0018 UJ	< 0.0020 UJ	< 0.0019 UJ
heptachlor	< 0.0018 UJ	< 0.0018 UJ	< 0.0019 UJ	< 0.0020 UJ	< 0.0018 U	< 0.0017 U	< 0.0018 U	< 0.0017 U	< 0.0018 U	< 0.0017 U	< 0.0018 UJ	< 0.0018 UJ	< 0.0020 UJ	< 0.0019 UJ
aldrin	< 0.0018 UJ	< 0.0018 UJ	< 0.0019 UJ	< 0.0020 UJ	< 0.0018 U	< 0.0017 U	< 0.0018 U	< 0.0017 U	< 0.0018 U	< 0.0017 U	< 0.0018 UJ	< 0.0018 UJ	< 0.0020 UJ	< 0.0019 UJ
heptachlor epoxide	< 0.0018 U	< 0.0018 U	< 0.0019 U	0.0038 J	< 0.0018 U	< 0.0017 U	< 0.0014 J	< 0.0017 U	< 0.0018 U	< 0.0017 U	< 0.0018 U	< 0.0018 U	< 0.0020 U	< 0.0019 U
endosulfan I	< 0.0018 U	< 0.0018 U	< 0.0019 U	0.0020	< 0.0018 U	< 0.0017 U	< 0.0018 [redacted]	< 0.0017 U	< 0.0018 U	< 0.0017 U	0.0019	< 0.0018 U	< 0.0020 U	0.0012 J
dieldrin	< 0.0037 UJ	< 0.0036 UJ	< 0.0038 UJ	< 0.0020 U	< 0.0018 U	< 0.0017 U	< 0.0018 U	< 0.0017 U	< 0.0018 U	< 0.0017 U	< 0.0018 U	< 0.0018 U	< 0.0020 U	< 0.0019 U
4,4'-DDE	0.0046	0.0031 J	< 0.0038 U	< 0.0041 UJ	< 0.0035 U	< 0.0035 U	< 0.0036 UJ	< 0.0035 U	< 0.0035 U	< 0.0035 U	< 0.0018 U	< 0.0018 U	< 0.0020 U	< 0.0019 U
Endrin	< 0.0030 J	< 0.0036 UJ	< 0.0038 UJ	< 0.0041 UJ	< 0.0035 U	< 0.0035 U	< 0.0036 U	< 0.0035 U	< 0.0035 U	< 0.0035 U	< 0.0036 UJ	< 0.0036 [redacted]	< 0.0039 [redacted]	< 0.0039 [redacted]
Endosulfan II	< 0.0037 U	< 0.0036 U	< 0.0038 U	< 0.0041 UJ	< 0.0035 U	< 0.0035 U	< 0.0036 UJ	< 0.0035 U	< 0.0035 U	< 0.0035 U	< 0.0036 U	< 0.0036 U	< 0.0039 U	< 0.0039 U
4,4'-DDD	< 0.0157 J	< 0.0036 U	< 0.0038 U	< 0.0041 U	< 0.0035 U	< 0.0035 U	< 0.0023 J	< 0.0035 U	< 0.0035 U	< 0.0035 U	< 0.0036 U	< 0.0036 U	< 0.0039 U	< 0.0039 U
Endosulfan Sulfate	< 0.0037 U	< 0.0036 U	< 0.0038 U	< 0.0046	< 0.0036 U	< 0.0035 U	< 0.0036 U	< 0.0035 U	< 0.0035 U	< 0.0035 U	< 0.0036 U	< 0.0036 U	< 0.0039 U	< 0.0039 U
4,4'-DDT	< 0.0116 J	< 0.0036 U	< 0.0038 U	< 0.0041 U	< 0.0035 U	< 0.0035 U	< 0.0036 U	< 0.0035 U	< 0.0035 U	< 0.0035 U	< 0.0036 U	< 0.0036 U	< 0.0039 U	< 0.0039 U
Methoxychlor	< 0.0180 U	< 0.0180 U	< 0.0190 U	< 0.0200 U	< 0.0180 U	< 0.0170 U	< 0.0180 U	< 0.0170 U	< 0.0180 U	< 0.0170 U	< 0.0180 U	< 0.0180 U	< 0.0200 U	< 0.0190 U
Endrin Ketone	< 0.0037 U	< 0.0036 U	< 0.0038 U	< 0.0041 U	< 0.0035 U	< 0.0035 U	< 0.0036 U	< 0.0035 U	< 0.0035 U	< 0.0035 U	< 0.0036 U	< 0.0036 U	< 0.0039 U	< 0.0039 U
Endrin aldehyde	< 0.0037 U	< 0.0036 U	< 0.0038 U	< 0.0041 U	< 0.0035 U	< 0.0035 U	< 0.0036 U	< 0.0035 U	< 0.0035 U	< 0.0035 U	< 0.0036 U	< 0.0036 U	< 0.0039 U	< 0.0039 U
alpha-chlordane	0.0040 J	< 0.0018 U	< 0.0019 U	< 0.0020 U	< 0.0018 U	< 0.0017 U	< 0.0018 J	< 0.0017 U	< 0.0018 U	< 0.0069 J	< 0.0161 J	0.1150	< 0.0320	< 0.0019 U
gamma-chlordane	< 0.0030 J	< 0.0018 U	< 0.0019 U	0.0049	< 0.0018 U	< 0.0017 U	< 0.0033	< 0.0017 U	< 0.0018 U	< 0.0061 J	< 0.0161	< 0.1290	< 0.4770	< 0.0022
Toxaphene	< 0.1650 U	< 0.1170 U	< 0.1910 U	< 0.2060 U	< 0.1770 U	< 0.1750 U	< 0.1790 U	< 0.1730 U	< 0.1770 U	< 0.1730 U	< 0.1610 U	< 0.1790 U	< 0.1980 U	< 0.1930 U
Aroclor 1016	< 0.0370 U	< 0.0350 U	< 0.0380 U	< 0.0410 U	< 0.0360 U	< 0.0350 U	< 0.0360 U	< 0.0350 U	< 0.0360 U	< 0.0350 U	< 0.0360 U	< 0.0360 U	< 0.0390 U	< 0.0380 U
Aroclor 1221	< 0.0740 U	< 0.0710 U	< 0.0760 U	< 0.0830 U	< 0.0710 U	< 0.0700 U	< 0.0720 U	< 0.0690 U	< 0.0710 U	< 0.0690 U	< 0.0720 U	< 0.0710 U	< 0.0780 U	< 0.0770 U
Aroclor 1232	< 0.0379 U	< 0.0350 U	< 0.0389 U	< 0.0410 U	< 0.0360 U	< 0.0359 U	< 0.0369 U	< 0.0359 U	< 0.0359 U	< 0.0359 U	< 0.0360 U	< 0.0360 U	< 0.0380 U	< 0.0380 U
Aroclor 1242	< 0.0379 U	< 0.0350 U	< 0.0360 U	< 0.0410 U	< 0.0360 U	0.1088	< 0.0360 U	< 0.0469	< 0.0359 U	< 0.4389 J	< 0.0360 U	< 0.0360 U	< 0.0380 U	< 0.0380 U
Aroclor 1248	< 0.0379 U	< 0.0350 U	< 0.0360 U	< 0.0410 U	< 0.0359 U	< 0.0369 U	< 0.0360 U	< 0.0359 U	< 0.0359 U	< 0.0359 U	< 0.0360 U	< 0.0360 U	< 0.0380 U	< 0.0380 U
Aroclor 1254	< 0.0379 U	< 0.0356 U	< 0.0360 U	0.2966	< 0.0359 U	< 0.0369 U	0.1780	< 0.0359 U	< 0.0359 U	< 0.0359 U	< 0.0360 U	< 0.0360 U	< 0.0380 U	< 0.0380 U
Aroclor 1260	0.0750	0.0960	< 0.0360 U	< 0.0410 U	< 0.0359 U	0.0520	0.0839	< 0.0359 U	< 0.0359 U	0.3259 J	< 0.0360 U	< 0.0360 U	0.3460	< 0.0380 U

Table 5-3
Surface Soil Pesticides/PCBs
Southwest Properties
Wells G RI/FS
September 1993

Compounds	MURPHY WASTE OIL					
	MR-SS1	MR-SS2	MR-SS3	[redacted]		
alpha-BHC	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0050 U	< 0.0021 U	< 0.0053 U
beta-BHC	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0050 U	< 0.0021 U	< 0.0053 U
delta-BHC	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0050 U	< 0.0021 U	< 0.0053 U
gamma-BHC	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0050 UJ	< 0.0021 UJ	< 0.0053 UJ
heptachlor	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0050 UJ	< 0.0021 UJ	< 0.0053 UJ
aldrin	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0050 U	< 0.0021 U	< 0.0053 U
heptachlor epoxide	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0050 U	< 0.0021 U	< 0.0053 U
endosulfan I	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0050 U	< 0.0021 U	< 0.0053 U
dieldrin	< 0.0034 U	< 0.0035 U	< 0.0034 U	< 0.0101 UJ	< 0.0043 UJ	< 0.0106 [redacted]
4,4'-DDE	< 0.0034 U	< 0.0035 U	< 0.0034 U	< 0.0101 U	0.0078	0.0120 J
Endrin	0.0030 J	0.0067 J	< 0.0034 U	< 0.0101 UJ	< 0.0043 UJ	< 0.0106 UJ
Endosulfan II	< 0.0034 U	< 0.0035 U	< 0.0034 U	< 0.0191 U	< 0.0043 U	< 0.0106 U
4,4'-DDD	< 0.0034 U	< 0.0035 U	< 0.0034 U	0.0374 J	0.0463 [redacted]	0.0146 J
Endosulfan Sulfate	< 0.0034 U	< 0.0035 U	< 0.0034 U	< 0.0101 U	< 0.0043 U	< 0.0106 U
4,4'-DDT	< 0.0034 U	< 0.0035 U	< 0.0034 U	0.0188 J	0.1209 J	0.0353 J
Methoxychlor	< 0.0170 U	< 0.0170 U	< 0.0170 U	< 0.0500 U	< 0.0210 U	< 0.0535 U
Endrin Ketone	< 0.0034 U	< 0.0035 U	< 0.0034 U	< 0.0101 U	< 0.0043 U	< 0.0106 U
Endrin aldehyde	< 0.0034 U	< 0.0035 U	< 0.0034 U	0.0177 [redacted]	< 0.0043 U	0.0058 J
alpha-chlordane	0.0520	0.0164 J	< 0.0017 U	0.2178 [redacted]	0.8830 [redacted]	0.0461 J
gamma-chlordane	0.0290	0.0087 J	< 0.0017 U	0.2518 [redacted]	1.9770 [redacted]	0.0306 J
Toxaphene	< 0.1700 U	< 0.1750 U	< 0.1710 U	< 0.0503 U	< 0.2146 U	< 0.5380 U
Aroclor 1016	< 0.0340 U	< 0.0350 U	< 0.0340 U	< 0.1010 U	< 0.0430 U	< 0.1080 U
Aroclor 1221	< 0.0680 U	< 0.0700 U	< 0.0680 U	< 0.2019 U	< 0.0860 U	< 0.2150 U
Aroclor 1232	< 0.0340 U	< 0.0350 U	< 0.0340 U	< 0.1010 U	< 0.0430 U	< 0.1080 U
Aroclor 1242	< 0.0340 U	< 0.0350 U	< 0.0340 U	< 0.1010 U	< 0.0430 U	< 0.1080 U
Aroclor 1248	< 0.0340 U	< 0.0350 U	< 0.0340 U	< 0.1010 U	< 0.0430 U	< 0.1080 U
Aroclor 1254	< 0.0340 U	< 0.0350 U	< 0.0340 U	5.1230 J	[redacted]	0.7300 J
Aroclor 1260	< 0.0340 U	< 0.0350 U	0.0539	2.1579 J		0.3660 J

Table 5-4
Surface Soil Metals and Cyanide
Southwest Properties
Wells G RI/FS
September 1993

Compounds	ABERJONA AUTO PARTS										WHITNEY BARREL				MURPHY WASTE OIL					
	AB-SS1	AB-SS2	AB-SS3	AB-SS4	AB-SS5	AB-SS6	AB-SS7	AB-SS8	AB-SS9	DUP-LAB	WB-SS1	WB-SS2	WB-SS3	WB-SS4	MR-SS1	MR-SS2	MR-SS3	[redacted]		
Aluminum	7,642 J	4,122 J	5,797 J	6,955 J	7,790	8,118	7,015 J	7,474	12,890	5,665	6,872	7,255	7,365	5,485	5,141	11,251	7,760	7,261 J	3,171	20,614 J
Antimony	< 8.2 UJ	< 8.1 UJ	< 8.6 UJ	< 8.0 UJ	< 8.3 U	< 7.9 U	< 8.1 UJ	< 7.9 U	< 8.0 U	< 7.8 U	< 7.9 UJ	< 8.2 UJ	< 8.6 UJ	< 8.6 UJ	< 7.8 U	< 8.3 U	< 7.8 U	< 23.6 U	< 8.9 [redacted]	109 [redacted]
Arsenic	6.5	3.1	3.9	6.4	3.7	10.4	5.0	2.4	1.8	11.9	2.9 J	4.4 J	3.2 J	4.3 J	3.8 J	3.1	3.8	7.5	5.7	17.0
Barium	38.7	31.2	22.5 B	41.9	< 79.4 U	168	52.4	142	95.5	108	89.6 J	184 J	99.6 J	24.9 J	30.1	54.6	40.6	235	92.3	317
Beryllium	0.29 B	0.14	0.31 B	0.32 B	[redacted] B	0.28 B	0.29 B	0.28 B	0.43 B	0.28 B	0.42 B	0.29 B	0.31 B	0.31 B	0.27 B	0.44 B	0.42 B	0.42 B	0.16 B	1.3 B
Cadmium	1.6	1.4 B	0.92	2.1	4.3	5.4	2.5	8.7	2.1	53	5.9 J	5.1 J	1.4 J	1.7 J	1.1	1.5	1.1	3.4	< 0.88 U	4.8
Calcium	4,956	1,409	844	3,006	9,301	5,765	3,539	6,452	9,155	5,839	7,936 J	3,898 J	1,599 J	423 J	2,760	9,424	2,134	9,752	4,175	11,157
Chromium	13.2 J	11.9 J	[redacted] J	16.8 J	18.2	20.8	12.8 J	8.8	8.4	15.7	184 J	60.1 J	618 J	20.8 J	98.8	75.7	20.3	916 J	588 J	6183 J
Cobalt	7.2 B	3.8 B	6.9 B	5.8 B	8.4	11.1	9.8	12.1	20.2	12.6	7.5	8.9	2.7 B	2.2 B	8.7	10.6	8.9	5.5 B	2.5 B	20 B
Copper	25.7	92.6	16.4	46.0	106	104	40.6	85.4	20.2	58.7	54.8 J	58.9 J	21.1 J	7.2 J	25.0	36.9	29.2	67.1	17.3	112.0
Iron	17,161 J	16,923 J	12,460 J	13,287 J	35,395	39,064	24,103 J	32,469	36,838	32,580	34,925 J	44,810 J	13,928 J	5,133 J	15,309	19,496	15,785	12,580 J	2,959 J	30,611 J
Lead	129 J	365 J	49.7 J	195 J	838	846	460 J	182	[redacted] J	892 J	823 J	1207 J	534 J	13.2 J	21.2	90.0	142	813 J	286 J	1246 J
Magnesium	3,491	1,548	2,590	2,175	4,535	4,916	3,522	4,713	7,691	5,576	2,621	2,843	1,296	854	4,465	5,951	4,436	2,254	243 B	7,536
Manganese	205 J	132 J	211 J	182 J	269	269	192 J	363	315	248	294 J	344 J	104 J	46.7 J	211	324	197	197 J	82.4 [redacted]	575 [redacted]
Mercury	0.18	[redacted]	< 0.09 U	< 0.09 U	< 0.089 U	< 0.078 U	0.12 [redacted]	< 0.093 U	< 0.093 U	0.094 [redacted]	0.29 J	0.55 J	< 0.09 [redacted]	< 0.086 UJ	< 0.092 U	< 0.103 U	0.72	7.4 J	1.2 [redacted]	0.96 [redacted]
Nickel	7.2	10.4	7.7	16.0	51.8	29.3	10.7	29.6	13.1	25.9	5.4 J	27.2 J	11.6 J	5.5 J	14.8	19.0	18.5	15.2 B	4.8 B	55.3
Potassium	682 B	266 B	469 B	523 B	668 B	960	1,067	877	2,458	1,142	806	762	279 B	231 B	1,257	1,157	1,173	426 B	112 B	1,107 B
Selenium	< 0.45 U	0.44 [redacted]	< 0.47 U	< 0.59 U	< 0.49 B	< 0.42 UJ	< 0.44 U	< 0.53 UJ	0.48 UJ	< 0.42 U	< 0.44 UJ	< 0.43 UJ	0.53 J	< 0.46 UJ	< 0.40 U	< 0.42 U	< 0.42 UJ	1.6 B	1.1	1.30 B
Silver	0.73 B	< 0.72 U	0.92 B	< 0.80 U	1.5	1.6	0.87 B	1.7	3.6	0.28	< 0.71 U	1.2 B	0.94 B	< 0.77 U	0.81 B	1.3 B	0.83 B	< 2.1 U	< 0.88 U	< 2.2 U
Sodium	84.2 B	58.1 B	50.1 B	76.6 B	281 B	152 B	95.7 B	158 B	212 B	190 B	226 B	254 B	51.0 B	38.1 B	169 B	181 B	67.0 B	201 B	173 B	246 B
Thallium	< 0.15 U	< 0.15 U	< 0.16 U	< 0.17 U	< 0.1 U	< 0.1 U	< 0.15 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.15 U	< 0.14 U	< 0.16 U	< 0.15 U	< 0.1 U	< 0.1 U	0.1 [redacted]	< 0.39 U	< 0.16 U	< 0.44 U
Vanadium	21.9	19.7	22.1	17.6	28.7 J	31.5 J	22.8	30.0 J	51.7 J	35.1 J	4.4 B	25.0	17.5	6.8 B	22.9 J	33.9 J	25.3 J	42.6	17.8	86.3
Zinc	85.8	111	[redacted]	147	796	737	143	883	98.1	591 [redacted]	42.1 J	244 J	97.0 J	46.7 J	47.1	73.8	85.6	540	186	1039
Cyanide	< 0.19 U	< 0.21 U	< 0.22 U	< 0.23 U	< 0.20 U	< 0.20 U	< 0.21 UJ	< 0.20 U	< 0.20 U	< 0.20 U	1.8 J	0.58 J	0.36 J	< 0.23 UJ	< 0.20 U	< 0.20 U	< 0.20 U	< 0.60 U	0.34	4.7

Table 5-7
Subsurface Soil Volatile Organic Compounds
Southwest Properties
Wells G RI/FS
September 1993

Compounds	ASERJONA AUTO PARTS										WHITNEY BARREL				
	AB-SS1D	QZ-99	AB-SS2D	AB-SS3D	AB-SS4D	AB-SS5D	AB-SS6D	AB-SS7D	AB-SS8D	AB-SS9D	WB-SS1D	WB-SS2D	WB-SS3D	WB-SS3D DUP	WB-SS4D
Chloromethane	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 [redacted]	< 0.0033 [redacted]	< 0.0026 U	< 0.0036 UJ	< 0.0042 [redacted]	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
Bromomethane	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
Vinyl Chloride	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
Chloroethane	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 1.7500 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
Methylene Chloride	[redacted] 0.0263 UJ	[redacted] 0.0134 UJ	[redacted] 0.0118 UJ	[redacted] 0.0178 UJ	[redacted] 0.0114 UJ	[redacted] 0.0480 UJ	[redacted] 0.0500 UJ	[redacted] 0.0164 UJ	[redacted] 0.0480 UJ	[redacted] 0.1780 [redacted]	[redacted] 0.0407 UJ	[redacted] 2.8900 [redacted]	[redacted] 0.0361 UJ	0.0329 [redacted]	[redacted] 0.0257 UJ
Acetone	[redacted] 0.0260 UJ	[redacted] 0.0158 UJ	[redacted] 0.0112 UJ	[redacted] 0.0127 UJ	[redacted] 0.0125 UJ	[redacted] 0.0080 UJ	[redacted] 0.0100 UJ	[redacted] 0.0256 UJ	[redacted] 0.0350 UJ	[redacted] 0.1820 [redacted]	[redacted] 0.0337 UJ	[redacted] 8.9400 [redacted]	[redacted] 0.0169 UJ	0.0197 [redacted]	[redacted] 0.0257 UJ
Carbon Disulfide	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
1,1-Dichloroethene	0.0009 J	< 0.0030 J	0.0011 J	0.0014 J	0.0010 J	0.0010 J	[redacted] 0.0017 [redacted]	0.0011 J	0.0012 J	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	0.0011 J
1,1-Dichloroethane	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
1,2-Dichloroethene (total)	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
Chloroform	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
1,2-Dichloroethane	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
2-Butanone	[redacted] 0.0069 UJ	[redacted] 0.0060 UJ	[redacted] 0.0053 UJ	[redacted] 0.0044 UJ	[redacted] 0.0102 UJ	[redacted] 0.0061 UJ	[redacted] 0.0070 UJ	[redacted] 0.0068 UJ	[redacted] 0.0062 UJ	[redacted] 0.0175 UJ	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
1,1,1-Trichloroethane	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	[redacted] 0.0074 U
Carbon Tetrachloride	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
Bromodichloromethane	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
1,2-Dichloropropene	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
cis-1,3-Dichloropropene	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
Trichloroethene	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
Dibromochloromethane	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
1,1,2-Trichloroethane	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
Benzene	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
trans-1,3-Dichloropropene	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
Bromoform	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	0.0006 J	< 0.0026 U	< 0.0027 U	0.0006 J
4-Methyl-2-Pentanone	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
2-Hexanone	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 UJ	< 0.0033 UJ	< 0.0026 U	< 0.0036 UJ	< 0.0042 UJ	< 0.0027 UJ	< 0.9400 UJ	< 0.0026 UJ	< 0.0027 UJ	< 0.0029 UJ
Tetrachloroethene	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 UJ	< 0.0033 UJ	< 0.0026 U	< 0.0036 UJ	< 0.0042 UJ	< 0.0027 UJ	< 0.9400 UJ	< 0.0026 UJ	< 0.0027 UJ	< 0.0029 UJ
1,1,2,2-Tetrachloroethane	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.5700 J	< 0.0026 U	< 0.0027 U	< 0.0029 U
Toluene	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
Chlorobenzene	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	0.0010 J	< 0.0033 U	< 0.0026 U	0.0009 J	< 0.0042	< 0.0027 U	< 0.2800 J	< 0.0026 U	< 0.0027 U	0.0078
Ethylbenzene	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 UJ	< 0.0042 U	0.0007 J	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
Styrene	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0012 J	< 0.0039 J	0.0007 J	0.5798 J	< 0.0026 U	0.0007 J	0.0037
Xylene (total)	< 0.0030 U	< 0.0030 U	< 0.0029 U	< 0.0026 U	< 0.0026 U	< 0.0029 U	< 0.0033 U	< 0.0026 U	< 0.0036 [redacted]	< 0.0042 U	< 0.0027 U	< 0.9400 U	< 0.0026 U	< 0.0027 U	< 0.0029 U
						0.0007 J	< 0.0033 U	< 0.0026 U	0.0011 J	0.0271	0.0014 J	3.3399	< 0.0026 U	< 0.0027 U	0.0327

Notes:
QZ-99 is a duplicate sample of AB-SS1D
All values in mg/kg

Table 5-7
Subsurface Soil Volatile Organic Compounds
Southwest Properties
Wells G RI/FS
September 1993

Compounds	MURPHY WASTE OIL				QA/QC SAMPLES						
	MR-SS1D	MR-SS2D	MR-SS3D	MR-SS4D	FIELD BLK	FB99	FIELD BLK	TRIP BLK	TB-1	TB-2	TRIP BLK
Chloromethane	< 0.0029 [redacted]	< 5.190 U	< 0.0029 [redacted]	< 0.0027 [redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Bromomethane	< 0.0029 U	< 5.190 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Vinyl Chloride	< 0.0029 U	< 2.595 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0010 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Chloroethane	< 0.0029 U	< 5.190 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Methylene Chloride	[redacted] 0.0530 UJ	20.791 [redacted]	[redacted] 0.0720 UJ	[redacted] 0.0609 UJ	[redacted] 0.0240	[redacted] 0.0038 UJ	[redacted] 0.0193 U	[redacted] 0.0141 UJ	[redacted] 0.0065 U	[redacted] 0.0165 U	[redacted] 0.0060 UJ
Acetone	[redacted] 0.0360 UJ	12.975 [redacted]	[redacted] 0.0250 UJ	[redacted] 0.0410 UJ	[redacted] 0.0230 U	[redacted] 0.0063 UJ	[redacted] 0.0240 U	[redacted] 0.0243 U	[redacted] 0.0065 U	[redacted] 0.0260 U	[redacted] 0.0097 UJ
Carbon Disulfide	< 0.0029 U	< 5.190 [redacted]	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
1,1-Dichloroethene	< 0.0029 U	< 5.190 U	[redacted] 0.0010 J	[redacted] 0.0011 J	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
1,1-Dichloroethane	< 0.0029 U	< 5.190 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
1,2-Dichloroethene (total)	< 0.0029 U	[redacted] 1.557 J	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Chloroform	< 0.0029 U	< 5.190 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
1,2-Dichloroethane	< 0.0029 U	< 5.190 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
2-Butanone	[redacted] 0.0068 UJ	[redacted] 5.190	[redacted] 0.0060 UJ	[redacted] 0.0057 UJ	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
1,1,1-Trichloroethane	< 0.0029 U	[redacted] 5.190	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	[redacted] 0.0022 U	< 0.0029 U	[redacted] 0.0032 U
Carbon Tetrachloride	< 0.0029 U	< 5.190 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Bromodichloromethane	< 0.0029 U	< 5.190 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
1,2-Dichloropropane	< 0.0029 U	< 5.190 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
cis-1,3-Dichloropropene	< 0.0029 U	< 5.190 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Trichloroethene	< 0.0029 U	[redacted] 2.076 J	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Dibromochloromethane	< 0.0029 U	< 5.190 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
1,1,2-Trichloroethane	< 0.0029 U	< 5.190 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Benzene	< 0.0029 U	< 5.190 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
trans-1,3-Dichloropropene	< 0.0029 U	< 5.190 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Bromoform	< 0.0029 U	< 5.190 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
4-Methyl-2-Pentanone	< 0.0029 UJ	< 5.190 U	< 0.0029 UJ	< 0.0027 UJ	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
2-Hexanone	< 0.0029 [redacted]	< 5.190 U	< 0.0029 [redacted]	< 0.0027 [redacted]	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Tetrachloroethene	< 0.0029 U	< 5.190 U	[redacted] 0.0016 J	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
1,1,2,2-Tetrachloroethane	< 0.0029 U	< 5.190 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Toluene	[redacted] 0.0006 J	[redacted] 3.114 J	[redacted] 0.0014 J	[redacted] 0.0014 J	< 0.0020 U	< 0.0017 J	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Chlorobenzene	< 0.0029 U	< 5.190 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Ethylbenzene	< 0.0029 U	[redacted] 1.557 J	[redacted] 0.0080	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Styrene	< 0.0029 U	< 5.190 U	< 0.0029 U	< 0.0027 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Xylene (total)	[redacted] 0.0063	[redacted] 10.640	[redacted] 0.0155	[redacted] 0.0009 J	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U

Notes:
QZ-99 is a duplicate sample
All values in mg/kg

Table 5-6
Subsurface Soil Semivolatile Organic Compounds
Southwest Properties
Wells G RI/FS
September 1993

Compounds	ABERJONA AUTO PARTS												WHITNEY BARREL				
	AB-SS1D	AB-SS1D DUP	AB-SS2D	AB-SS3D	AB-SS4D	AB-SS5D	AB-SS6D	AB-SS7D	AB-SS8D	AB-SS9D	AB-SS9D DUP	WB-SS1D	WB-SS2D	WB-SS3D	WB-SS3D DUP	WB-SS4D
Phenol	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
bis(2-chloroethyl)ether	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
2-Chlorophenol	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
1,3-Dichlorobenzene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
1,4-Dichlorobenzene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
1,2-Dichlorobenzene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
2-Methylphenol	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
2,2'-oxybis(1-Chloropropane)	< 0.412 U	< 0.407 [redacted]	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
4-Methylphenol	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
N-Nitroso-di-n-propylamine	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
Hexachloroethane	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
Nitrobenzene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
Isophorone	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
2-Nitrophenol	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
2,4-Dimethylphenol	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
bis(2-chloroethoxy)methane	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
2,4-Dichlorophenol	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
1,2,4-Trichlorobenzene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
Naphthalene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
4-Chloroaniline	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	0.036 J	0.860	< 0.407 U	< 0.402 U	< 0.392 U
Hexachlorobutadiene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 [redacted]	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
4-Chloro-3-methylphenol	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
2-Methylnaphthalene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 UJ
Hexachlorocyclopentadiene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
2,4,6-Trichlorophenol	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	0.076 J	0.834	< 0.407 U	< 0.402 U	< 0.392 U
2,4,5-Trichlorophenol	1.029 U	1.016 U	0.992 U	0.969 U	0.969 U	0.992 U	1.174 U	1.004 U	1.282 U	1.515 U	0.868 U	< 0.379 [redacted]	< 0.368 R	< 0.407 UJ	< 0.402 UJ	< 0.392 U
2-Chloronaphthalene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
2-Nitroaniline	1.029 U	1.016 U	0.992 U	0.969 U	0.969 U	0.992 U	1.174 U	1.004 U	1.282 U	1.515 U	0.868 U	0.947 U	0.896 U	1.016 U	1.004 U	0.980 U
Dimethylphthalate	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
Acenaphthylene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	0.947 UJ	0.896 UJ	1.016 UJ	1.004 UJ	0.980 U
2,6-Dinitrotoluene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
3-Nitroaniline	1.029 UJ	1.016 UJ	0.992 UJ	0.969 UJ	0.969 UJ	0.992 U	1.174 U	1.004 UJ	1.282 UJ	1.515 U	0.868 UJ	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
Acenaphthene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
2,4-Dinitrophenol	1.029 U	1.016 U	0.992 U	0.969 U	0.969 U	0.992 U	1.174 U	1.004 U	1.282 U	1.515 U	0.868 U	< 0.947 UJ	< 0.896 UJ	1.016 [redacted]	1.004 UJ	0.980 UJ
4-Nitrophenol	1.029 U	1.016 U	0.992 U	0.969 U	0.969 U	0.992 U	1.174 U	1.004 U	1.282 U	1.515 U	0.868 U	0.036 J	0.856 U	0.407 U	0.402 U	0.392 U
Dibenzofuran	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	0.947 R	0.896 R	1.016 UJ	1.004 UJ	0.980 UJ
2,4-Dinitrotoluene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
Diethylphthalate	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
4-Chlorophenyl-phenylether	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	0.079 J	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
Fluorene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	0.061 J	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
4-Nitroaniline	1.029 U	1.016 U	0.992 U	0.969 U	0.969 U	0.992 U	1.174 U	1.004 U	1.282 U	1.515 U	0.868 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
4,6-Dinitro-2-methylphenol	1.029 U	1.016 U	0.992 U	0.969 U	0.969 U	0.992 U	1.174 U	1.004 U	1.282 U	1.515 U	0.868 U	0.036 J	0.856 U	0.407 U	0.402 U	0.392 U
N-Nitrosodiphenylamine (1)	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	0.947 U	0.896 U	1.016 U	1.004 U	0.980 U
4-Bromophenyl-phenylether	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	0.947 U	0.896 U	1.016 U	1.004 U	0.980 U
Hexachlorobenzene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
Pentachlorophenol	1.029 U	1.016 U	0.992 U	0.969 U	0.969 U	0.992 U	1.174 U	1.004 U	1.282 U	1.515 U	0.868 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
Phenanthrene	< 0.412 U	< 0.407 U	< 0.397 U	0.039 J	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
Anthracene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.947 UJ	< 0.896 U	1.016 U	1.004 U	0.980 U
Carbazole	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.516 U	< 0.606 U	< 0.347 U	0.341 J	0.638	< 0.407 U	< 0.402 U	0.039 J
Di-n-butylphthalate	0.123 J	0.293 J	0.079 J	0.155 J	0.271 J	< 0.397 U	< 0.469 U	0.201 J	< 0.513 U	< 0.606 U	< 0.347 U	0.114 J	0.356	< 0.407 U	< 0.402 U	< 0.392 U
Fluoranthene	< 0.412 U	< 0.407 U	< 0.397 U	0.078 J	< 0.388 U	0.079 J	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	0.104 J	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
Pyrene	< 0.412 U	< 0.407 U	< 0.397 U	0.116 J	< 0.388 U	0.040 J	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	0.095 J	0.114 J	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
Butylbenzylphthalate	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	0.051 J	< 0.606 U	0.059 J	0.606	2.366	< 0.407 U	< 0.402 U	0.118 J
3,3'-Dichlorobenzidine	< 0.412 UJ	< 0.407 [redacted]	< 0.397 UJ	< 0.388 UJ	< 0.388 UJ	< 0.397 U	< 0.469 U	< 0.402 U	0.103 J	< 0.606 U	0.104 J	0.530	1.366	< 0.407 U	< 0.402 U	0.118 J
Benzo(a)anthracene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 UJ	< 0.513 UJ	< 0.606 [redacted]	< 0.347 UJ	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
Chrysene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 UJ	< 0.368 UJ	< 0.407 UJ	< 0.402 UJ	< 0.392 UJ
bis(2-ethylhexyl)phthalate	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	0.051 J	< 0.606 U	< 0.347 U	0.941 J	1.111	< 0.407 U	< 0.402 U	0.039 J
Di-n-octylphthalate	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	1.469 [redacted]	< 0.469 U	< 0.402 U	0.716 U	< 0.606 U	0.784 U	0.303 J	1.494	< 0.407 U	< 0.402 U	0.118 J
Benzo(b)fluoranthene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	1.023 U	2.616 B	< 0.407 U	< 0.402 U	0.510 U
Benzo(k)fluoranthene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	< 0.379 U	< 0.368 U	< 0.407 U	< 0.402 U	< 0.392 U
Benzo(a)pyrene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	0.462	1.613	< 0.407 U	< 0.402 U	0.078 J
Indeno(1,2,3-cd)pyrene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	0.227 J	0.753	< 0.407 U	< 0.402 U	0.039 J
Dibenz(a,h)anthracene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	0.341 J	1.256	< 0.407 U	< 0.402 U	0.039 J
Benzo(g,h,i)perylene	< 0.412 U	< 0.407 U	< 0.397 U	< 0.388 U	< 0.388 U	< 0.397 U	< 0.469 U	< 0.402 U	< 0.513 U	< 0.606 U	< 0.347 U	0.341 J	0.996	< 0.407 U	< 0.402 U	0.078 J
												0.114 J	0.357 J	< 0.407 U	< 0.402 U	0.092 U
												0.341 J	1.254	< 0.407 U	< 0.402 U	0.078 J

Table 5-8
Subsurface Soil Semivolatile Organic Compounds
Southwest Properties
Wells G RI/FS
September 1993

Compounds	MURPHY WASTE OIL			
	MR-681D	MR-682D	MR-683D	MR-684D
Phenol	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
bis(2-chloroethyl)ether	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
2-Chlorophenol	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
1,3-Dichlorobenzene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
1,4-Dichlorobenzene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
1,2-Dichlorobenzene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
2-Methylphenol	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
2,2'-oxybis(1-Chloropropane)	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
4-Methylphenol	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
N-Nitroso-di-n-propylamine	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Hexachloroethane	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Nitrobenzene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Isophorone	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
2-Nitrophenol	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
2,4-Dimethylphenol	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
bis(2-chloroethoxy)methane	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
2,4-Dichlorophenol	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
1,2,4-Trichlorobenzene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Naphthalene	[redacted] 0.550 U	< 0.363 U	< 0.402 U	< 0.392 U
4-Chloroaniline	< 0.407 UJ	< 0.363 UJ	< 0.402 U	< 0.392 U
Hexachlorobutadiene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
4-Chloro-3-methylphenol	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
2-Methylnaphthalene	< 0.407 U	1.573 J	< 0.402 U	< 0.392 U
Hexachlorocyclopentadiene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
2,4,6-Trichlorophenol	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
2,4,5-Trichlorophenol	< 1.016 U	< 23.408 U	< 1.004 U	< 0.980 U
2-Chloronaphthalene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
2-Nitroaniline	< 1.016 U	< 23.408 U	< 1.004 U	< 0.980 U
Dimethylphthalate	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Acenaphthylene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
2,6-Dinitrotoluene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
3-Nitroaniline	< 1.016 U	< 23.408 U	< 1.004 UJ	< 0.980 UJ
Acenaphthene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
2,4-Dinitrophenol	< 1.016 U	< 23.408 U	< 1.004 U	< 0.980 U
4-Nitrophenol	< 1.016 U	< 23.408 U	< 1.004 U	< 0.980 U
Dibenzofuran	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
2,4-Dinitrotoluene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Diethylphthalate	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
4-Chlorophenyl-phenylether	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Fluorene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
4-Nitroaniline	< 1.016 U	< 23.408 U	< 1.004 U	< 0.980 U
4,6-Dinitro-2-methylphenol	< 1.016 U	< 23.408 U	< 1.004 U	< 0.980 U
N-Nitrosodiphenylamine (1)	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
4-Bromophenyl-phenylether	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Hexachlorobenzene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Pentachlorophenol	< 1.016 U	< 23.408 U	< 1.004 U	< 0.980 U
Phenanthrene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Anthracene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Carbazole	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Di-n-butylphthalate	< 0.407 U	< 0.363 U	< 0.402 U	0.678 J
Fluoranthene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Pyrene	< 0.407 U	3.746 J	< 0.402 U	< 0.392 U
Butylbenzylphthalate	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
3,3'-Dichlorobenzidine	< 0.407 UJ	< 0.363 UJ	< 0.402 UJ	< 0.392 UJ
Benzo(a)anthracene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Chrysene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
bis(2-ethylhexyl)phthalate	0.171 [redacted]	< 0.363 U	[redacted] 0.402 U	< 0.392 U
Di-n-octylphthalate	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Benzo(b)fluoranthene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Benzo(k)fluoranthene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Benzo(a)pyrene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Indeno(1,2,3-cd)pyrene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Dibenz(a,h)anthracene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U
Benzo(g,h,i)perylene	< 0.407 U	< 0.363 U	< 0.402 U	< 0.392 U

Table 5-9
Subsurface Soil Pesticides/PCBs
Southwest Properties
Wells G R/FS
September 1993

Compounds	ABERJONA AUTO PARTS										WHITNEY BARREL				
	AB-SS1D	AB-SS1D DUP	AB-SS2D	AB-SS3D	AB-SS4D	AB-SS5D	AB-SS6D	AB-SS7D	AB-SS8D	AB-SS9D	WB-SS1D	WB-SS2D	WB-SS3D	WB-SS3D DUP	WB-SS4D
alpha-BHC	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0019 U	< 0.0019 U	< 0.0020 U	< 0.0023 U	< 0.0020 U	< 0.0025 U	< 0.0030 U	< 0.0019 U	< 0.0018 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
beta-BHC	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0019 U	< 0.0019 U	< 0.0020 U	< 0.0023 U	< 0.0020 U	< 0.0025 U	< 0.0030 U	< 0.0019 UJ	< 0.0018 UJ	< 0.0020 UJ	< 0.0020 UJ	< 0.0020 UJ
delta-BHC	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0019 U	< 0.0019 U	< 0.0020 U	< 0.0023 U	< 0.0020 U	< 0.0025 U	< 0.0030 U	< 0.0019 U	< 0.0018 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
gamma-BHC	< 0.0020 UJ	< 0.0020 UJ	< 0.0020 UJ	< 0.0019 UJ	< 0.0019 UJ	< 0.0020 U	< 0.0023 U	< 0.0020 UJ	< 0.0025 U	< 0.0030 U	< 0.0019 UJ	< 0.0018 UJ	< 0.0020 UJ	< 0.0020 UJ	< 0.0020 UJ
heptachlor	< 0.0020 UJ	< 0.0020 UJ	< 0.0020 UJ	< 0.0019 UJ	< 0.0019 UJ	< 0.0020 U	< 0.0023 U	< 0.0020 UJ	< 0.0025 U	< 0.0030 U	< 0.0019 UJ	< 0.0018 UJ	< 0.0020 UJ	< 0.0020 UJ	< 0.0020 UJ
aldrin	< 0.0020 UJ	< 0.0020 UJ	< 0.0020 UJ	< 0.0019 UJ	< 0.0019 UJ	< 0.0020 U	< 0.0023 U	< 0.0020 UJ	< 0.0025 U	< 0.0030 U	< 0.0019 UJ	< 0.0018 UJ	< 0.0020 UJ	< 0.0020 UJ	< 0.0020 UJ
heptachlor epoxide	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0019 U	< 0.0021 J	< 0.0020 U	< 0.0023 U	< 0.0016 J	< 0.0025 U	< 0.0030 U	< 0.0019 U	< 0.0018 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
endosulfan I	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0019 U	< 0.0019 U	< 0.0020 U	< 0.0023 U	< 0.0020 U	< 0.0025 U	< 0.0030 U	< 0.0019 U	< 0.0197	< 0.0020 U	< 0.0020 U	< 0.0020 J
dieldrin	< 0.0041 UJ	< 0.0041 UJ	< 0.0040 UJ	< 0.0038 UJ	< 0.0039 UJ	< 0.0040 U	< 0.0047 U	< 0.0040 UJ	< 0.0051 U	< 0.0061 U	< 0.0038 UJ	< 0.0632 J	< 0.0041 UJ	< 0.0040 UJ	< 0.0039 UJ
4,4'-DDE	< 0.0041 U	< 0.0041 U	< 0.0040 U	< 0.0038 U	< 0.0039 U	< 0.0040 U	< 0.0047 U	< 0.0040 U	< 0.0051 U	< 0.0061 U	< 0.0038 U	< 0.0635	< 0.0041 U	< 0.0040 U	< 0.0039 U
Endrin	< 0.0041 UJ	< 0.0041 UJ	< 0.0040 UJ	< 0.0038 UJ	< 0.0039 UJ	< 0.0040 U	< 0.0047 U	< 0.0040 UJ	< 0.0051 U	< 0.0061 U	< 0.0038 U	< 0.0129	< 0.0041 U	< 0.0040 U	< 0.0039 U
Endosulfan II	< 0.0041 U	< 0.0041 U	< 0.0040 U	< 0.0038 U	< 0.0039 U	< 0.0040 U	< 0.0047 U	< 0.0040 U	< 0.0051 U	< 0.0061 U	< 0.0038 U	< 0.0038 U	< 0.0041 U	< 0.0041 U	< 0.0041 U
4,4'-DDD	< 0.0041 U	< 0.0041 U	< 0.0040 U	< 0.0038 U	< 0.0039 U	< 0.0040 U	< 0.0047 U	< 0.0040 U	< 0.0051 U	< 0.0061 U	< 0.0038 U	< 0.0038 U	< 0.0041 U	< 0.0041 U	< 0.0041 U
Endosulfan Sulfate	< 0.0041 U	< 0.0041 U	< 0.0040 U	< 0.0038 U	< 0.0039 U	< 0.0040 U	< 0.0047 U	< 0.0040 U	< 0.0051 U	< 0.0061 U	< 0.0038 U	< 0.0038 U	< 0.0041 U	< 0.0041 U	< 0.0041 U
4,4'-DDT	< 0.0041 U	< 0.0041 U	< 0.0040 U	< 0.0038 U	< 0.0039 U	< 0.0040 U	< 0.0047 U	< 0.0040 U	< 0.0051 U	< 0.0061 U	< 0.0038 U	< 0.0038 U	< 0.0041 U	< 0.0041 U	< 0.0041 U
Methoxychlor	< 0.0200 U	< 0.0200 U	< 0.0200 U	< 0.0069	< 0.0039 U	< 0.0040 U	< 0.0047 U	< 0.0040 U	< 0.0029 J	< 0.0061 U	< 0.0038 U	< 0.0038 U	< 0.0041 U	< 0.0040 U	< 0.0039 U
Endrin Ketone	< 0.0041 U	< 0.0041 U	< 0.0040 U	< 0.0038 U	< 0.0039 U	< 0.0040 U	< 0.0047 U	< 0.0040 U	< 0.0220	< 0.0061 U	< 0.0038 U	< 0.0038 U	< 0.0041 U	< 0.0040 U	< 0.0039 U
Endring aldehyde	< 0.0041 U	< 0.0041 U	< 0.0040 U	< 0.0038 U	< 0.0039 U	< 0.0040 U	< 0.0047 U	< 0.0040 U	< 0.0250 U	< 0.0300 U	< 0.0190 U	< 0.0190 U	< 0.0200 U	< 0.0200 U	< 0.0200 U
alpha-chlordane	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0019 U	< 0.0039 U	< 0.0040 U	< 0.0047 U	< 0.0040 U	< 0.0051 U	< 0.0061 U	< 0.0038 U	< 0.0038 U	< 0.0041 U	< 0.0040 U	< 0.0039 U
gamma-chlordane	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0019 U	< 0.0019 U	< 0.0020 U	< 0.0023 U	< 0.0020 U	< 0.0034 J	< 0.0061 U	< 0.0038 U	< 0.0038 U	< 0.0041 U	< 0.0040 U	< 0.0039 U
Toxaphene	< 0.2050 U	< 0.2030 U	< 0.1980 U	< 0.1920 U	< 0.1930 U	< 0.1980 U	< 0.2340 U	< 0.1980 U	< 0.2580 U	< 0.3030 U	< 0.1880 U	< 0.1790 U	< 0.2030 U	< 0.2000 U	< 0.1960 U
Aroclor 1016	< 0.0410 U	< 0.0410 U	< 0.0400 U	< 0.0380 U	< 0.0380 U	< 0.0400 U	[redacted] U	< 0.0400 U	< 0.0510 U	< 0.0610 U	< 0.0380 U	< 0.0380 U	< 0.0410 U	< 0.0400 U	< 0.0390 U
Aroclor 1221	< 0.8200 U	< 0.8610 U	< 0.8799 U	< 0.0770 U	< 0.0770 U	< 0.8799 U	0.0940 U	< 0.0800 U	< 0.1020 U	< 0.1210 U	< 0.8760 U	< 0.8729 U	< 0.0810 U	< 0.0800 U	< 0.0780 U
Aroclor 1232	< 0.0410 U	< 0.0419 U	< 0.0400 U	< 0.0380 U	< 0.0380 U	< 0.0400 U	[redacted] U	< 0.0400 U	< 0.0510 U	< 0.0610 U	< 0.0380 U	< 0.0380 U	< 0.0410 U	< 0.0400 U	< 0.0390 U
Aroclor 1242	< 0.0410 U	< 0.0410 U	< 0.0400 U	< 0.0380 U	< 0.0380 U	< 0.0400 U	[redacted] U	< 0.0400 U	< 0.0510 U	< 0.0610 U	< 0.0380 U	< 0.0380 U	< 0.0410 U	< 0.0400 U	< 0.0390 U
Aroclor 1248	< 0.0419 U	< 0.0410 U	< 0.0400 U	< 0.0380 U	< 0.0380 U	< 0.0400 U	[redacted] U	< 0.0400 U	< 0.0510 U	< 0.0610 U	< 0.0380 U	< 0.0380 U	< 0.0410 U	< 0.0400 U	< 0.0390 U
Aroclor 1254	< 0.0419 U	< 0.0410 U	< 0.0400 U	< 0.0380 U	< 0.0380 U	< 0.0400 U	[redacted] U	< 0.0400 U	< 0.0510 U	< 0.0610 U	< 0.0380 U	< 0.0380 U	< 0.0410 U	< 0.0400 U	< 0.0390 U
Aroclor 1260	[redacted] 0.0750	< 0.0410 U	< 0.0400 U	< 0.0380 U	< 0.0380 U	< 0.0400 U	[redacted] U	< 0.0400 U	< 0.0510 U	< 0.0610 U	< 0.0380 U	< 0.0380 U	< 0.0410 U	< 0.0400 U	< 0.0390 U
									0.2320	< 0.0610 U	< 0.0380 U	1.4140	< 0.0410 U	< 0.0400 U	< 0.0390 U
													< 0.0410 U	< 0.0400 U	< 0.0390

Table 5-9
Subsurface Soil Pesticides/PCBs
Southwest Properties
Wells G RI/FS
September 1993

Compounds	MURPHY WASTE OIL			
	MR-SS1D	MR-SS2D	MR-SS3D	MR-SS4D
alpha-BHC	< 0.0020 U	< 0.0019 U	< 0.0020 U	< 0.0020 U
beta-BHC	< 0.0020 U	< 0.0019 U	< 0.0020 U	< 0.0020 U
delta-BHC	< 0.0020 U	< 0.0019 U	0.0034	< 0.0020 U
gamma-BHC	< 0.0020 U	< 0.0019 U	< 0.0020 U	< 0.0020 U
heptachlor	< 0.0020 U	< 0.0019 U	< 0.0020 U	< 0.0020 U
aldrin	< 0.0020 U	< 0.0019 U	< 0.0020 U	< 0.0020 U
heptachlor epoxide	< 0.0020 U	< 0.0019 U	< 0.0020 U	< 0.0020 U
endosulfan I	< 0.0020 U	< 0.0019 U	< 0.0020 U	< 0.0020 U
dieldrin	< 0.0041 U	< 0.0037 U	< 0.0040 U	< 0.0040 U
4,4'-DDE	< 0.0041 U	< 0.0037 U	< 0.0040 U	< 0.0040 U
Endrin	< 0.0041 U	< 0.0037 U	0.0085	< 0.0040 U
Endosulfan II	< 0.0041 U	< 0.0037 U	< 0.0040 U	< 0.0040 U
4,4'-DDD	< 0.0041 U	< 0.0037 U	< 0.0040 U	< 0.0040 U
Endosulfan Sulfate	< 0.0041 U	< 0.0037 U	< 0.0040 U	< 0.0040 U
4,4'-DDT	< 0.0041 U	< 0.0037 U	< 0.0040 U	< 0.0040 U
Methoxychlor	< 0.0200 U	< 0.0199 U	< 0.0200 U	< 0.0200 U
Endrin Ketone	< 0.0041 U	< 0.0037 U	< 0.0040 U	< 0.0040 U
Endrin aldehyde	< 0.0041 U	< 0.0037 U	< 0.0040 U	< 0.0040 U
alpha-chlordane	0.0014 J	0.1290	0.0069	< 0.0020 U
gamma-chlordane	< 0.0020 U	0.0719	0.1290	< 0.0020 U
Toxaphene	< 0.2030 U	< 0.1870 U	< 0.2010 U	< 0.1960 U
Aroclor 1016	< 0.0410 U	< 0.0370 U	< 0.0400 U	< 0.0390 U
Aroclor 1221	< 0.0810 U	< 0.0750 U	< 0.0800 U	< 0.0780 U
Aroclor 1232	< 0.0410 U	< 0.0370 U	< 0.0400 U	< 0.0390 U
Aroclor 1242	< 0.0410 U	< 0.0370 U	< 0.0400 U	< 0.0390 U
Aroclor 1248	< 0.0410 U	< 0.0370 U	< 0.0400 U	< 0.0390 U
Aroclor 1254	< 0.0410 U	< 0.0370 U	< 0.0400 U	< 0.0390 U
Aroclor 1260	< 0.0410 U	< 0.0370 U	< 0.0400 U	< 0.0390 U

Table 5-10
Subsurface Soil Metals and Cyanide
Southwest Properties
Wells G RI/FS
September 1993

Compounds	ABERJONA AUTO PARTS										WHITNEY BARREL					MURPHY WASTE OIL			
	AB-SS1D	AB-SS1D DUP	AB-SS2D	AB-SS3D	AB-SS4D	AB-SS5D	AB-SS6D	AB-SS7D	AB-SS8D	AB-SS9D	WS-SS1D	WS-SS2D	WS-SS3D	WS-SS3D DUP	WS-SS4D	MR-SS1D	MR-SS2D	MR-SS3D	MR-SS4D
Aluminum	2,490 J	3,490 J	3,765 J	9,544 J	3,130 J	3,563	3,366	8,348 J	8,928	4,841	7,934	7,946	3,161	4,039	3,856	4,066	8,969	5,966	6,968
Antimony	< 9.1 UJ	< 9.3 UJ	< 8.4 UJ	< 8.5 UJ	< 8.7 UJ	< 9.0 U	< [redacted] U	< 9.4 U	< 11.4 U	< 13.8 U	< 8.4 UJ	< 8.2 UJ	< 8.9 UJ	< 8.8 UJ	< 8.6 UJ	< 9.1 U	< 8.7 U	< 9.4 U	< 8.7 U
Arsenic	2.3	2.7	2.8	5.3	1.9 B	1.4	2.0	3.3	42.6 J	6.0	5.5 J	5.8 J	1.6 J	1.7 J	2.6 J	1.3 J	3.2 J	1.6	9.3
Barium	5.1 B	4.3 B	3.3 B	22.7 B	3.3 B	5.2 B	10.2 B	76.4	203	25.6	67.4 J	206 J	4.8 J	6.6 J	16.5 J	6.1	133	12.5 B	[redacted] B
Beryllium	0.16 B	0.17 B	0.15 B	0.45 B	0.16 B	0.16 B	0.20 B	0.17 B	0.41 B	0.49 B	0.30 B	0.44 B	< 0.16 U	0.16 B	0.31 B	< 0.16 U	0.31 B	0.17 B	0.31 B
Cadmium	< 0.82 U	< 0.83 U	< 0.75 U	1.1	< 0.78 U	< 0.8 U	< 0.96 U	1.9	5.2	< 1.2 U	5.3 J	2.9 J	< 0.80 UJ	0.78 J	0.77 J	< 0.81 U	1.2	< 0.84 U	< 0.76 U
Calcium	498 B	270 B	128 B	2,220	235 [redacted]	1,569	1,330	7,976	7,374	1,743	7,066 J	2,429 J	674 J	641 J	765 [redacted]	837	4,213	1,512	1,671
Chromium	12.4 J	19.0 J	6.3 J	13.7 J	5.8 J	9.0	6.3	44.4 J	544	12.5	49.9 J	28.3 J	8.9 J	51.0 J	7.5 J	8.6	[redacted]	8.7	16.3
Cobalt	2.9 B	1.7 B	1.6 B	6.9 B	1.2 B	1.6 B	1.6 B	15.3	13.0	5.8 B	5.71 B	7.3	1.3 B	1.3 B	2.9 B	1.9 B	12.8	3.4	8.4
Copper	3.3 B	1.8 B	1.6 B	17.7	2.0 B	3.0 B	1.8 B	18.4	224	2.5 B	27.5 J	56.4 J	2.1 J	2.8 J	8.8 J	2.1 B	30.2	9.3	24.8
Iron	3,085 J	3,279 J	3,167 J	14,467 J	3,130 J	3,584	2,646	25,750 J	36,830	4,290	19,474 J	37,377 J	3,236 J	3,879 [redacted]	5,905 [redacted]	4,141	20,969	5,850	10,815
Lead	1.3 J	1.7 J	1.7 J	20.4 J	1.1 J	22.9	1.8	20.2 J	537	2.7	179 J	367 J	4.8 J	7.2 J	29.8 J	1.8	485	19.2	3.3
Magnesium	673 B	664 B	626 B	3,413	726 B	965	832 B	5,669	4,669	967 B	2,397	2,537	818	897	1,157	921	5,668	1,458	3,702
Manganese	26.8 J	26.0 J	21.7 J	281 J	25.5 J	38.5	30.4	178 J	320	32.5	178 J	325 J	32.0 J	35.2 J	55.4 J	35.6	182	61.1	161
Mercury	[redacted] 0.12 [redacted]	< 0.10 U	< 0.10 U	< 0.11 U	< 0.08 U	< 0.105 U	< 0.128 U	0.09 [redacted]	1.0	< 0.179 U	0.29 J	0.12 J	< 0.09 UJ	< 0.11 UJ	< 0.08 UJ	< 0.102 U	< 0.090 U	< 0.096 U	< 0.116 U
Nickel	1.8 B	0.83 B	1.3 B	6.0 B	1.1 B	8.6	4.1 B	4.7 B	51.4	6.1 B	13.2 J	21.0 J	3.8 J	4.9 J	6.2 J	5.3	18.5	8.9	15.8
Potassium	73.2 B	< 59.3 U	135 B	331 B	160 B	266 B	140 B	2,104	1,068	146 B	586 B	1,145	243 B	163 B	572 B	276 B	2,195	447 B	< 1,110
Selenium	< 0.59 U	< 0.51 U	< 0.50 U	0.48 B	0.48 B	< 0.47 UJ	< 0.54 UJ	< 0.49 U	1.6	2.2	< 0.48 UJ	0.48 J	< 0.48 UJ	< 0.47 UJ	< 0.47 UJ	< 0.48 U	< 0.45 U	< 0.48 [redacted]	< 0.48 [redacted]
Silver	< 0.82 U	< 0.83 U	< 0.75 U	< 0.76 U	< 0.78 U	< 0.80 U	< 0.96 U	1.68 B	2.7	< 1.2 U	2.0	< 0.73 U	< 0.80 U	< 0.78 U	< 0.77 U	< 0.81 U	1.6 B	< 0.84 [redacted]	< 0.76 [redacted]
Sodium	< 49.5 U	< 41.3 U	< 37.0 U	59.8 B	< 38.6 U	91.7 B	112 B	195 B	317 B	225 B	354 B	236 B	< 39.5 U	77.4 B	79.3 B	116 B	289 B	70.5 B	98.8 B
Thallium	< 0.17 U	< 0.17 U	< 0.17 U	< 0.16 U	< 0.16 U	< 0.2 U	< 0.2 U	< 0.16 U	< 0.2 U	< 0.2 U	< 0.16 U	< 0.15 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Vanadium	4.2 B	4.8 B	5.1 B	25.1	4.7 B	6.6 J	6.7 J	44.9	32.6 J	20.4 J	17.4	45.2	3.5 B	5.8 B	8.2	6.2 J	33.8 J	11.8 J	16.2 J
Zinc	7.3	6.8	6.4	46.0	6.5	23.9	9.0	127	1,349	11.1	103 J	182 J	5.1 J	10.8 J	35.3 J	7.8	72.6	23.1	22.0
Cyanide	< 0.22 U	< 0.22 U	< 0.21 U	< 0.21 U	< 0.21 U	< 0.20 U	< 0.20 U	< 0.23 U	< 0.30 U	< 0.46 U	0.77 J	0.20 J	< 0.24 UJ	< 0.23 UJ	< 0.23 UJ	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U

[redacted]

B.1.1 Soil Data Summary Table – Aberjona Property
Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

Property	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona
Location	AB-15	AB-16	AB-16	AB-SS1	AB-SS2	AB-SS3	AB-SS4	AB-SS5	AB-SS6	AB-SS7	AB-SS8	AB-SS9	AB-14	AB-14
Sample ID	AB-15/0-2	AB-16/0-2	AB16SS(0-2.0)	AB-SS1	AB-SS2	AB-SS3	AB-SS4	AB-SS5	AB-SS6	AB-SS7	AB-SS8	AB-SS9	AB-14/0-2	AB14SS(0-2.0)
Date	11/26/2002	11/26/2002	11/26/2002	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	11/26/2002	11/26/2002
Soil (S)	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Top (ft)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bottom (ft)	2	2	2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	2
Volatile Organic Compounds														
1,1,1,2-Tetrachloroethane														
1,2,3-Trichlorobenzene														
1,2,3-Trichloropropane														
1,2,4-Trimethylbenzene														
1,2-Dichloroethene (total)				2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U		
1,3,5-Trimethylbenzene														
1,3-Dichloropropane														
1,4-Dichlorobutane														
2,2-Dichloropropane														
2-Chloroethyl vinyl ether														
Acrolein														
Acrylonitrile														
Bromobenzene														
Bromochloromethane														
Dibromomethane														
Ethyl ether														
Ethyl methacrylate														
Hexachlorobutadiene	270 U	270 U	52 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U		
Iodomethane														
m- & p- Xylenes			68 U											
n-Butylbenzene														
n-Propylbenzene														
Naphthalene	3.1 UJ	4 UJ	52 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U		
o-Chlorotoluene														
o-Xylene			34 UJ											
p-Chlorotoluene														
p-Isopropyltoluene														
sec-Butylbenzene														
tert-Butylbenzene														
trans-1,4-Dichloro-2-butene														
Vinyl Acetate														
Dichlorodifluoromethane	1.7 U	1.8 U	34 U											
Chloromethane	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 UJ	2.5 UJ	2.6 U	2.6 UJ	2.6 UJ		
Vinyl chloride	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U		
Bromomethane	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.4 J		
Chloroethane	1.7 U	1.8 U	34 UJ	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U		
Fluorotrichloromethane	1.7 U	1.8 U	34 U											
1,1-Dichloroethene	1.7 U	1.8 U	34 U	1.2	1.1 J	2.8 U	1.1 J	4.8 J	1.7 J	2.6 U	0.9 J	1.8 J		
Freon 113	1.7 U	1.8 U	34 U											
Acetone	3.7 JB	4.6 UJ	170 U	8.9 UJ	5.1 UJ	8.3 UJ	9.1 UJ	112 UJ	9 UJ	14.4 UJ	33 UJ	11 UJ		
Carbon disulfide	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U		
Methyl acetate	1.7 U	1.8 U	34 U											
Methylene chloride	7.8 UJ	9.4 UJ	280 U	13.9 UJ	5.6 UJ	15.6 UJ	15.5 UJ	74 UJ	16 UJ	14.2 UJ	39 UJ	21 UJ		
trans-1,2-Dichloroethene	1.7 U	1.8 U	34 U											
Methyl tert-butyl ether	1.7 U	1.8 U	34 U											
1,1-Dichloroethane	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U		
cis-1,2-Dichloroethene	1.7 U	1.8 U	34 U											
2-Butanone (MEK)	4.3 U	4.6 U	100 U	10.8 UJ	4.7 UJ	5.3 UJ	5.7 UJ	31.9 UJ	6.1 UJ	4.6 UJ	5.8 UJ	5.2 U		
Chloroform	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U		
1,1,1-Trichloroethane	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U		
Cyclohexane	1.7 U	1.8 U	34 UJ											
Carbon tetrachloride	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U		
Benzene	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U		
1,2-Dichloroethane	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U		

B.1.1 Soil Data Summary Table – Aberjona Property
Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

Property	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona
Location	AB-15	AB-16	AB-16	AB-SS1	AB-SS2	AB-SS3	AB-SS4	AB-SS5	AB-SS6	AB-SS7	AB-SS8	AB-SS9	AB-14	AB-14	AB-14
Sample ID	AB-15/0-2	AB-16/0-2	AB16SS(0-2.0)	AB-SS1	AB-SS2	AB-SS3	AB-SS4	AB-SS5	AB-SS6	AB-SS7	AB-SS8	AB-SS9	AB-14/0-2	AB14SS(0-2.0)	
Date	11/26/2002	11/26/2002	11/26/2002	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	11/26/2002	11/26/2002	
Soil (S)	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
Top (ft)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bottom (ft)	2	2	2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	2	
Volatile Organic Compounds (cont.)															
Trichloroethene	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U			
Methyl cyclohexane	1.7 U	1.8 U	34 U												
1,2-Dichloropropane	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U			
Bromodichloromethane	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U			
cis-1,3-Dichloropropene	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U			
4-Methyl-2-pentanone	4.3 UJ	4.6 UJ	170 U	2.7 U	2.7 U	2.8 U	3 U	13.3 UJ	2.5 UJ	2.6 U	2.6 UJ	2.6 UJ			
Toluene	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	22.8	2.5 U	2.6 U	1.4 J	2.6 U			
trans-1,3-Dichloropropene	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U			
1,1,2-Trichloroethane	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U			
Tetrachloroethene	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U			
2-Hexanone	4.3 U	4.6 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U			
Chlorodibromomethane	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 UJ	2.5 UJ	2.6 U	2.6 UJ	2.6 UJ			
Ethylenedibromide	1.7 U	1.8 U	0.01 UJ												
Chlorobenzene	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U			
Ethylbenzene	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U			
Xylenes (total)	1.7 U	1.8 U	68 U	2.7 U	2.7 U	2.8 U	3 U	16	2.5 U	2.6 U	1.5 J	2.6 U			
Styrene	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	162.2	2.5 U	2.6 U	8	2.6 U			
Bromoform	1.7 U	1.8 U	34 U	2.7 U	2.7 U	2.8 U	3 U	2.7 J	2.5 U	2.6 U	2.6 U	2.6 U			
Isopropylbenzene	1.7 U	1.8 U	34 U												
1,1,2,2-Tetrachloroethane	1.7 U	1.8 U	34 UJ	2.7 U	2.7 U	2.8 U	3 U	13.3 U	2.5 U	2.6 U	2.6 U	2.6 U			
1,3-Dichlorobenzene	1.7 U	1.8 U	34 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
1,4-Dichlorobenzene	1.7 U	1.8 U	34 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
1,2-Dichlorobenzene	1.7 U	1.8 U	34 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
1,2-Dibromo-3-chloropropane	1.7 U	1.8 U	34 U												
1,2,4-Trichlorobenzene	1.7 U	1.8 U	34 UJ	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
Semivolatile Organic Compounds															
Benzaldehyde	270 UJ	270 UJ	130 UJ												
Phenol	4.2 UJ	5.2 UJ	130 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
2-Chlorophenol	270 U	270 U	130 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
Bis(2-chloroethyl) ether	270 U	270 U	52 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
2-Methylphenol	2.8 UJ	2.7 UJ	130 UJ	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
2,2'-Oxybis(1-Chloropropane)	270 U	270 U	52 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
Bis(2-chloroisopropyl) ether			52 U												
Acetophenone	270 U	270 U	52 U												
4-Methylphenol	270 U	270 U	130 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
N-Nitroso-di-n-propylamine	270 U	270 U	52 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
Hexachloroethane	270 UJ	270 UJ	52 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
Nitrobenzene	270 U	270 U	52 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
Isophorone	270 U	270 U	52 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
2-Nitrophenol	270 UJ	270 UJ	130 UJ	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
2,4-Dimethylphenol	270 UJ	270 UJ	130 UJ	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
Bis(2-chloroethoxy) methane	270 U	270 U	52 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
2,4-Dichlorophenol	270 U	270 U	130 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
4-Chloroaniline	270 UJ	270 UJ	52 UJ	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
Caprolactam	270 U	270 U	52 UJ												
4-Chloro-3-Methylphenol	270 U	270 U	139 UJ	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
2-Methylnaphthalene	270 U	270 U	52 U	370 U	358 U	383 U	412 U	1418	35 J	358 U	347 U	347 U			
Hexachlorocyclopentadiene	270 UJ	270 UJ	52 UJ	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
2,4,6-Trichlorophenol	270 UJ	270 UJ	130 UJ	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
2,4,5-Trichlorophenol	270 UJ	270 UJ	130 UJ	926 U	896 U	958 U	1029 U	1773 U	877 U	896 U	868 U	868 U			
1,1'-Biphenyl	270 U	270 U	52 UJ												
2-Chloronaphthalene	270 U	270 U	52 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
2-Nitroaniline	270 UJ	270 UJ	52 U	926 U	896 U	958 U	1029 U	1773 U	877 U	896 U	868 U	868 U			
Dimethyl phthalate	270 U	270 U	52 U	370 U	358 U	383 U	41 J	709 U	351 U	358 U	347 U	347 U			

B.1.1 Soil Data Summary Table – Aberjona Property
Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

Property	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona
Location	AB-15	AB-16	AB-16	AB-SS1	AB-SS2	AB-SS3	AB-SS4	AB-SS5	AB-SS6	AB-SS7	AB-SS8	AB-SS9	AB-14	AB-14	AB-14
Sample ID	AB-15/0-2	AB-16/0-2	AB16SS(0-2.0)	AB-SS1	AB-SS2	AB-SS3	AB-SS4	AB-SS5	AB-SS6	AB-SS7	AB-SS8	AB-SS9	AB-14/0-2	AB14SS(0-2.0)	
Date	11/26/2002	11/26/2002	11/26/2002	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	11/26/2002	11/26/2002	
Soil (S)	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
Top (ft)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bottom (ft)	2	2	2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	2	
Semivolatile Organic Compounds (cont.)															
2,6-Dinitrotoluene	270 U	270 U	52 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
Acenaphthylene	270 U	270 U	2.6 U	370 U	358 U	383 U	412 U	142 J	351 U	358 U	347 U	347 U			
3-Nitroaniline	270 UJ	270 UJ	52 U	926 UJ	896 UJ	958 UJ	1029 UJ	1773 UJ	877 U	896 UJ	868 UJ	868 UJ			
Acenaphthene	270 U	270 U	2.6 U	370 U	358 U	383 U	412 U	71 J	351 U	358 U	347 U	347 U			
2,4-Dinitrophenol	270 UJ	270 UJ	130 UJ	926 U	896 U	958 U	1029 U	1773 U	877 U	896 U	868 U	868 U			
4-Nitrophenol	270 UJ	270 UJ	130 UJ	926 U	896 U	958 U	1029 U	1773 U	877 U	896 U	868 U	868 U			
Dibenzofuran	270 U	270 U	52 U	370 U	358 U	383 U	412 U	142 J	351 U	358 U	347 U	347 U			
2,4-Dinitrotoluene	270 U	270 U	52 UJ	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
Diethyl phthalate	270 U	270 U	52 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
Fluorene	270 U	270 U	2.6 U	370 U	358 U	383 U	412 U	142 J	351 U	358 U	347 U	347 U			
4-Chlorophenyl phenyl ether	270 U	270 U	52 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
4-Nitroaniline	270 UJ	270 UJ	52 U	926 U	896 U	958 U	1029 U	1773 U	877 U	896 U	868 U	868 U			
4,6-Dinitro-2-methylphenol	270 UJ	270 UJ	130 UJ	926 U	896 U	958 U	1029 U	1773 UJ	877 UJ	896 U	868 U	868 U			
N-Nitrosodiphenylamine	270 U	270 U	52 UJ	370 U	358 U	383 U	412 U	709 UJ	351 UJ	358 U	347 U	347 U			
4-Bromophenyl phenyl ether	270 UJ	270 UJ	52 U	370 U	358 U	383 U	412 U	709 UJ	351 UJ	358 U	347 U	347 U			
Hexachlorobenzene	2.8 U	2 J	52 U	370 U	358 U	383 U	412 U	709 UJ	351 UJ	358 U	347 U	347 U			
Atrazine	270 UJ	270 UJ	52 UJ												
Pentachlorophenol	270 UJ	140 J	52 UJ	926 U	896 U	958 U	1029 U	1773 UJ	877 UJ	896 U	868 U	868 U			
Phenanthrene	9.8 J	7.4 J	52 U	370 U	358 U	383 U	412 U	1277 J	36 J	36 J	347 U	347 U			
Anthracene	270 U	270 U	52 U	370 U	358 U	383 U	412 U	284 J	351 UJ	358 U	347 U	347 U			
Carbazole	270 U	270 U	52 UJ	370 U	358 U	383 U	412 U	709 UJ	351 UJ	358 U	347 U	347 U			
Di-n-butyl phthalate	270 U	270 U	210 UJ	74 J	108 J	38 J	123 J	142 J	211 J	72 J	111 J	104 J			
Fluoranthene	19	15	52 U	37 J	72 J	77 J	82 J	1702 J	70 J	108 J	868 U	35 J			
Pyrene	19	15	52 U	74 J	72 J	115 J	82 J	1277	140 J	72 J	347 U	69 J			
Butyl benzyl phthalate	270 U	270 U	52 U	593	573	38 J	288 J	638 J	211 J	72 J	347 U	104 J			
3,3'-Dichlorobenzidine			52 UJ	370 UJ	358 UJ	383 UJ	412 UJ	709 U	351 UJ	358 UJ	347 UJ	347 UJ			
Benzo(a)Anthracene	11	9	52 U	370 U	358 U	380 J	412 U	1064	70 J	36 J	347 U	347 U			
Chrysene	15	12	52 U	370 U	358 U	77 J	412 U	1469	105 J	72 J	347 U	69 J			
Bis(2-ethylhexyl) phthalate	58 J	109 J	129 UJ	1111 U	358 U	383 U	412 U	2624 U	947 UJ	358 U	347 U	355 U			
Di-n-octyl phthalate	270 U	270 U	52 U	778	358 U	383 U	412 U	71 J	351 U	358 U	347 U	347 U			
Benzo(b)Fluoranthene	13	11	52 U	370 U	358 U	383 U	412 U	1560	140 J	358 U	347 U	347 U			
Benzo(k)Fluoranthene	12	9.3	52 U	370 U	358 U	383 U	412 U	1064	70 J	358 U	347 U	347 U			
Benzo(a)Pyrene	12	9.9	52 U	370 U	358 U	383 U	412 U	1064	70 J	358 U	347 U	347 U			
Indeno(1,2,3-cd)pyrene	6.2	5.1	52 U	370 U	358 U	383 U	412 U	1064	70 J	358 U	347 U	347 U			
Dibenz(a,h) anthracene	2.8	3.9	6.2 J	370 U	358 U	383 U	412 U	1064	176 J	358 U	347 U	347 U			
Benzo(g,h,i)perylene	7.9	11	52 U	370 U	358 U	383 U	412 U	709 U	351 U	358 U	347 U	347 U			
EPH / VPH															
C5-C8 Aliphatic, Unadjusted															
C9-C12 Aliphatic, Unadjusted															
C5-C8 Aliphatic															
C9-C12 Aliphatic															
C9-C10 Aromatic															
C11-C22 Aromatic, Unadjusted			11000 J												
C9-C18 Aliphatic			3120 UJ												
C19-C36 Aliphatic			34000 J												
C11-C22 Aromatic			11000 J												

B.1.1 Soil Data Summary Table – Aberjona Property
Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

Property	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona
Location	AB-15	AB-16	AB-16	AB-SS1	AB-SS2	AB-SS3	AB-SS4	AB-SS5	AB-SS6	AB-SS7	AB-SS8	AB-SS9	AB-14	AB-14	AB-14
Sample ID	AB-15/0-2	AB-16/0-2	AB16SS(0-2.0)	AB-SS1	AB-SS2	AB-SS3	AB-SS4	AB-SS5	AB-SS6	AB-SS7	AB-SS8	AB-SS9	AB-14/0-2	AB14SS(0-2.0)	
Date	11/26/2002	11/26/2002	11/26/2002	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	11/26/2002	11/26/2002	
Soil (S)	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
Top (ft)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bottom (ft)	2	2	2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	2	
Metals															
Chromium (VI)	1000 U	1000 U	1100 UJ	396 J	1000 U	1000 U	504 J	546	624	384 J	1000 U	471	930 J	570	
Aluminum	10600000 JE	13000000 JE	1110000	7642000 J	4122000	8797000 J	6955000 J	7790000	8118000	7015000 J	7474000	10777500	13000000 JE	8910000	
Antimony	200 UJ	210 UJ	330 UJ	8200 UJ	8100 UJ	9600 UJ	9000 UJ	8300 U	7900 U	8100 UJ	7900 U	7800 U	1800 J	1440	
Arsenic	2100 J	2700 J	850 J	6500	3100	3900	6400	3700	10400	5000	2400	6850	6800 J	5540	
Beryllium	380 J	270 J	430	290 B	140	310 B	329 B	309 B	289 B	290 B	280 B	365 B	420 J	340	
Cadmium	270 J	1100 J	2710	1600	1400 B	929	2100	4300	5400	2500	8709	27650	2900 J	4020	
Calcium	5900000 J	7800000 J	6780000 J	4356000	1409000	844000	3009000	9361000	5765000	3839000	6452000	7497000	10000000 J	6410000 J	
Chromium	5500 J	8200 J	6280	13200 J	11900 J	12000 J	16800 J	18200	20800	12800 J	8800	12050	31000 J	19000	
Cobalt	9000 J	17000 J	17000	7200 B	3800 B	6900 B	5800 B	8400	11100	9800	12100	16400	12000 J	11000	
Copper	17000 J	40000 J	35000	26700	92600	16400	46000	166000	164000	40600	85400	39950	180000 J	95000	
Cyanide	82 U	77 U	180 U	190 U	210 U	220 U	230 U	200 U	200 U	210 UJ	200 U	200 U	80 U	180 U	
Iron	23000000 J	46000000 J	28100000	17161000 J	16923000 J	12486000 J	13287000 J	35395000	39084000	24169000 J	32469000	34714000	43000000 J	40300000	
Lead	60000 J	69000 J	69000 J	129000 J	365000 J	49700 J	195000 J	536000	646000	480000 J	182000	466500 J	1600000 J	1380000	
Magnesium	5200000 J	9200000 J	6640000	3491000	1548000	2590000	2175000	4535000	4918000	3522000	4713000	6533500	5900000 J	4060000	
Manganese	230000 J	290000 J	237000 J	205000 J	132000 J	211900 J	182000 J	268000	280000	192000 J	363000	282000	330000 J	257000	
Mercury	30 J	7.6 J	77 U	180	100	90 U	90 U	89 U	78 U	120	93 U	93 U	61 J	105 U	
Nickel	6800 J	18000 J	17000	7200	10400	7700	16000	51800	29300	16700	29800	19200	180000 J	96000	
Potassium	1000000 J	1500000 J	1710000 J	682000 B	266000 B	490000 B	523000 B	696000 B	960000	1067000	877000	1800000	270000 J	863000 J	
Selenium	85 UJ	21 UJ	660 UJ	450 U	440 U	470 U	500 U	480 B	420 UJ	440 U	530 UJ	420 U	190 J	620 UJ	
Silver	51 J	110 J	330 UJ	730 B	720 U	820 B	800 U	1500	1900	870 B	1700	1940	280 J	310 UJ	
Sodium	70000	84000	33000 U	84200 B	56100 B	50100 B	79800 B	281000 B	152000 B	95700 B	156000 B	201000 B	110000	306000 U	
Thallium	40 U	37 U	120 UJ	150 U	150 U	160 U	170 U	160 U	100 U	150 U	100 U	100 U	56 U	150 U	
Vanadium	23000 J	39000 J	46000	21900	10700	22100	17600	28700 J	31500 J	22800	30000 J	43400 J	31000 J	26000	
Zinc	170000 J	190000 J	119000 J	85800	111000	38000	147000	796000	737000	143000	883000	299550	910000 J	675000	

B.1.1 Soil Data Summary Table – Aberjona Property
Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

Property	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona
Location	AB-15	AB-13	AB-13	AB-15	AB-SS1	AB-SS2	AB-SS3	AB-SS4	AB-SS5	AB-SS6	AB-SS7	AB-SS8	AB-SS9	AB-14
Sample ID	AB15SS(0-2.0)	AB-13/0-2	AB13SS(0-2.0)	AB-15/4-4.5	AB-SS1D	AB-SS2D	AB-SS3D	AB-SS4D	AB-SS5D	AB-SS6D	AB-SS7D	AB-SS8D	AB-SS9D	AB14D(2.0-4.0)
Date	11/26/2002	12/2/2002	12/2/2002	12/2/2002	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	11/26/2002
Soil (S)	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Top (ft)	0	0	0	4	4	4	4	4	3	3	3	3	3	2
Bottom (ft)	2	2	2	4.5	5	5	5	5	4	4	4	4	4	4
Volatile Organic Compounds														
1,1,1,2-Tetrachloroethane														
1,2,3-Trichlorobenzene														
1,2,3-Trichloropropane														
1,2,4-Trimethylbenzene														
1,2-Dichloroethene (total)														
1,3,5-Trimethylbenzene					3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U	
1,3-Dichloropropane														
1,4-Dichlorobutane														
2,2-Dichloropropane														
2-Chloroethyl vinyl ether														
Acrolein														
Acrylonitrile														
Bromobenzene														
Bromochloromethane														
Dibromomethane														
Ethyl ether														
Ethyl methacrylate														
Hexachlorobutadiene														
Iodomethane				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U	
m- & p- Xylenes														
n-Butylbenzene														
n-Propylbenzene														
Naphthalene	550 UJ													
o-Chlorotoluene				26 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U	
o-Xylene														
p-Chlorotoluene														
p-Isopropyltoluene														
sec-Butylbenzene														
tert-Butylbenzene														
trans-1,4-Dichloro-2-butene														
Vinyl Acetate														
Dichlorodifluoromethane														
Chloromethane				R										
Vinyl chloride				R	3 U	2.9 U	2.8 U	2.8 U	2.9 UJ	3.3 UJ	2.8 U	3.8 UJ	4.2 UJ	
Bromomethane				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U	
Chloroethane				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U	
Fluorotrichloromethane				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U	
1,1-Dichloroethene				R										
Freon 113				R	1.95 J	1.1 J	1.4 J	1 J	1 J	1.7 J	1.1 J	1.2 J	4.2 U	
Acetone				R										
Carbon disulfide				530 JEJ	15.8 UJ	11.2 UJ	12.7 UJ	12.5 UJ	9 UJ	10 UJ	25.6 UJ	35 UJ	R	
Methyl acetate				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U	
Methylene chloride				R										
trans-1,2-Dichloroethene				39 UJ	13.4 UJ	11.8 UJ	17.6 UJ	11.4 UJ	46 UJ	50 UJ	16.4 UJ	43 UJ	R	
Methyl tert-butyl ether				R										
1,1-Dichloroethane				130 J										
cis-1,2-Dichloroethene				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U	
2-Butanone (MEK)				R										
Chloroform				170 J	6 UJ	5.3 UJ	4.4 UJ	16.2 UJ	6.1 UJ	7 UJ	6.8 UJ	8.2 UJ	17.5 UJ	
1,1,1-Trichloroethane				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U	
Cyclohexane				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U	
Carbon tetrachloride				R										
Benzene				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U	
1,2-Dichloroethane				44 J	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U	
				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U	

B.1.1 Soil Data Summary Table – Aberjona Property
Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

Property	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona
Location	AB-15	AB-13	AB-13	AB-15	AB-SS1	AB-SS2	AB-SS3	AB-SS4	AB-SS5	AB-SS6	AB-SS7	AB-SS8	AB-SS9	AB-14	
Sample ID	AB15SS(0-2.0)	AB-13/0-2	AB13SS(0-2.0)	AB-15/4-4.5	AB-SS1D	AB-SS2D	AB-SS3D	AB-SS4D	AB-SS5D	AB-SS6D	AB-SS7D	AB-SS8D	AB-SS9D	AB14D(2.0-4.0)	
Date	11/26/2002	12/2/2002	12/2/2002	12/2/2002	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	11/26/2002	
Soil (S)	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
Top (ft)	0	0	0	4	4	4	4	4	3	3	3	3	3	2	
Bottom (ft)	2	2	2	4.5	5	5	5	5	4	4	4	4	4	4	
Volatile Organic Compounds (cont.)															
Trichloroethene				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U		
Methyl cyclohexane				R											
1,2-Dichloropropane				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U		
Bromodichloromethane				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U		
cis-1,3-Dichloropropene				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U		
4-Methyl-2-pentanone				R	3 U	2.9 U	2.8 U	2.8 U	2.9 UJ	3.3 UJ	2.8 U	3.8 UJ	4.2 UJ		
Toluene				R	3 U	2.9 U	2.8 U	2.8 U	1 J	3.3 U	2.8 U	0.9 J	4.2		
trans-1,3-Dichloropropene				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U		
1,1,2-Trichloroethane				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U		
Tetrachloroethene				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U		
2-Hexanone				R	3 U	2.9 U	2.8 U	2.8 U	2.9 UJ	3.3 UJ	2.8 U	3.8 UJ	4.2 UJ		
Chlorodibromomethane				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U		
Ethylenedibromide				R											
Chlorobenzene				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U		
Ethylbenzene				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U		
Xylenes (total)				R	3 U	2.9 U	2.8 U	2.8 U	0.7 J	3.3 U	2.8 U	1.2 J	3.9 J		
Styrene				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	1.1 J	27.1		
Bromoform				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U		
Isopropylbenzene				R											
1,1,2,2-Tetrachloroethane				R	3 U	2.9 U	2.8 U	2.8 U	2.9 U	3.3 U	2.8 U	3.8 UJ	4.2 U		
1,3-Dichlorobenzene				R	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
1,4-Dichlorobenzene				R	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
1,2-Dichlorobenzene				R	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
1,2-Dibromo-3-chloropropane				R											
1,2,4-Trichlorobenzene				R	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Semivolatile Organic Compounds															
Benzaldehyde				1900 J											
Phenol				52 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
2-Chlorophenol				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Bis(2-chloroethyl) ether				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
2-Methylphenol				8.8 JB	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
2,2'-Oxybis(1-Chloropropane)				1200 UJ	407 UJ	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Bis(2-chloroisopropyl) ether															
Acetophenone				1200 UJ											
4-Methylphenol				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
N-Nitrosodi-n-propylamine				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Hexachloroethane				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Nitrobenzene				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Isophorone				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
2-Nitrophenol				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
2,4-Dimethylphenol					407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Bis(2-chloroethoxy) methane				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
2,4-Dichlorophenol				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
4-Chloroaniline					407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Caprolactam				1200 UJ											
4-Chloro-3-Methylphenol				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
2-Methylnaphthalene	550 UJ			1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Hexachlorocyclopentadiene				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
2,4,6-Trichlorophenol				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
2,4,5-Trichlorophenol				1200 UJ	1016 U	992 U	968 U	968 U	992 U	1174 U	1004 U	1282 U	868 U		
1,1'-Biphenyl				1200 UJ											
2-Chloronaphthalene				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
2-Nitroaniline				1200 UJ	1016 U	992 U	968 U	968 U	992 U	1174 U	1004 U	1282 U	868 U		
Dimethyl phthalate				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		

B.1.1 Soil Data Summary Table – Aberjona Property
Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

Property	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona
Location	AB-15	AB-13	AB-13	AB-15	AB-SS1	AB-SS2	AB-SS3	AB-SS4	AB-SS5	AB-SS6	AB-SS7	AB-SS8	AB-SS9	AB-SS9D	AB-14
Sample ID	AB15SS(0-2.0)	AB-13/0-2	AB13SS(0-2.0)	AB-15/4-4.5	AB-SS1D	AB-SS2D	AB-SS3D	AB-SS4D	AB-SS5D	AB-SS6D	AB-SS7D	AB-SS8D	AB-SS9D		AB14D(2.0-4.0)
Date	11/26/2002	12/2/2002	12/2/2002	12/2/2002	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	11/26/2002
Soil (S)	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Top (ft)	0	0	0	4	4	4	4	4	3	3	3	3	3	3	2
Bottom (ft)	2	2	2	4.5	5	5	5	5	4	4	4	4	4	4	4
Semivolatile Organic Compounds (c															
2,6-Dinitrotoluene				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Acenaphthylene	550 UJ			1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
3-Nitroaniline				1200 UJ	1016 UJ	992 UJ	969 UJ	969 UJ	992 U	1174 U	1004 UJ	1282 UJ	868 UJ		
Acenaphthene	550 UJ			1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
2,4-Dinitrophenol					1016 U	992 U	969 U	969 U	992 U	1174 U	1004 U	1282 U	868 U		
4-Nitrophenol				1200 UJ	1016 U	992 U	969 U	969 U	992 U	1174 U	1004 U	1282 U	868 U		
Dibenzofuran				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
2,4-Dinitrotoluene				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Diethyl phthalate				1200 UJ	407 U	397 U	388 U	388 U	79 J	469 U	402 U	513 U	61 J		
Fluorene	550 UJ			1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
4-Chlorophenyl phenyl ether				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
4-Nitroaniline				1200 UJ	1016 U	992 U	969 U	969 U	992 U	1174 U	1004 U	1282 U	868 U		
4,6-Dinitro-2-methylphenol				1200 UJ	1016 U	992 U	969 U	969 U	992 U	1174 U	1004 U	1282 U	868 U		
N-Nitrosodiphenylamine				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
4-Bromophenyl phenyl ether				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Hexachlorobenzene				12 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Atrazine				1200 UJ											
Pentachlorophenol					1016 U	992 U	969 U	969 U	992 U	1174 U	1004 U	1282 U	868 U		
Phenanthrene	550 UJ			37 J	407 U	397 U	39 J	388 U	397 U	469 U	402 U	513 U	347 U		
Anthracene	550 UJ			1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Carbazole				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Di-n-butyl phthalate				1200 UJ	163 J	79 J	155 J	271 J	397 U	469 U	201 J	513 U	104 J		
Fluoranthene	550 UJ			73 J	407 U	397 U	76 J	388 U	79 J	469 U	402 U	513 U	35 J		
Pyrene	550 UJ			64 J	407 U	397 U	116 J	388 U	49 J	469 U	402 U	51 J	69 J		
Butyl benzyl phthalate				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	103 J	104 J		
3,3'-Dichlorobenzidine					407 UJ	397 UJ	388 UJ	388 UJ	397 U	469 U	402 UJ	513 UJ	347 UJ		
Benzo(a)Anthracene	550 UJ			25 J	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Chrysene	550 UJ			110 J	407 U	397 U	388 U	388 U	397 U	469 U	402 U	51 J	69 J		
Bis(2-ethylhexyl) phthalate				1200 UJ	407 U	397 U	388 U	388 U	1468 U	469 U	402 U	718 U	608 U		
Di-n-octyl phthalate				1200 UJ	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Benzo(b)Fluoranthene	550 UJ			51 J	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Benzo(k)Fluoranthene	550 UJ			13 J	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Benzo(a)Pyrene	550 UJ			19 J	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Indeno(1,2,3-cd)pyrene	550 UJ			12 J	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Dibenz(a,h) anthracene	550 UJ			4.3 J	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
Benzo(g,h,i)perylene	550 UJ			11 J	407 U	397 U	388 U	388 U	397 U	469 U	402 U	513 U	347 U		
EPH / VPH															
C5-C8 Aliphatic, Unadjusted	1000 J														
C9-C12 Aliphatic, Unadjusted	1400 J														
C5-C8 Aliphatic	1000 J														
C9-C12 Aliphatic	1000 J														
C9-C19 Aromatic															
C11-C22 Aromatic, Unadjusted	18000 J														
C9-C18 Aliphatic	3300 UJ														
C19-C36 Aliphatic	53000 J														
C11-C22 Aromatic	18000 J														

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Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

Property	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona
Location	AB-15	AB-13	AB-13	AB-15	AB-SS1	AB-SS2	AB-SS3	AB-SS4	AB-SS5	AB-SS6	AB-SS7	AB-SS8	AB-SS9	AB-14
Sample ID	AB15SS(0-2.0)	AB-13/0-2	AB13SS(0-2.0)	AB-15/4-4.5	AB-SS1D	AB-SS2D	AB-SS3D	AB-SS4D	AB-SS5D	AB-SS6D	AB-SS7D	AB-SS8D	AB-SS9D	AB14D(2.0-4.0)
Date	11/26/2002	12/2/2002	12/2/2002	12/2/2002	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	11/26/2002
Soil (S)	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Top (ft)	0	0	0	4	4	4	4	4	3	3	3	3	3	2
Bottom (ft)	2	2	2	4.5	5	5	5	5	4	4	4	4	4	4
Pesticides														
alpha-Chlordane			0.31 UJ		2 U	2 U	1.9 U	1.9 U	2 U	2.3 U	2 U	2.5 U	3 U	
gamma-Chlordane			1.79 J		2 U	2 U	1.9 U	1.9 U	2 U	2.3 U	2 U	2.5 U	3 U	
PCBs														
alpha-BHC			0.31 UJ		2 U	2 U	1.9 U	1.9 U	2 U	2.3 U	2 U	2.5 U	3 U	
beta-BHC			0.31 UJ		2 U	2 U	1.9 U	1.9 U	2 U	2.3 U	2 U	2.5 U	3 U	
delta-BHC			0.31 UJ		2 U	2 U	1.9 U	1.9 U	2 U	2.3 U	2 U	2.5 U	3 U	
gamma-BHC			0.31 UJ		2 U	2 U	1.9 UJ	1.9 UJ	2 U	2.3 U	2 U	2.5 U	3 U	
Heptachlor			0.31 UJ		2 UJ	2 UJ	1.9 UJ	1.9 UJ	2 U	2.3 U	2 UJ	2.5 U	3 U	
Aldrin			0.31 UJ		2 UJ	2 UJ	1.9 UJ	1.9 UJ	2 U	2.3 U	2 U	2.5 U	3 U	
Heptachlor epoxide			0.31 UJ		2 UJ	2 UJ	1.9 UJ	2.1 J	2 U	2.3 U	1.8 J	2.5 U	3 U	
Endosulfan I			0.62 UJ		2 U	2 U	1.9 U	1.9 U	2 U	2.3 U	2 U	2.5 U	3 U	
Dieldrin			0.62 UJ		2 U	2 U	1.9 U	1.9 U	2 U	2.3 U	2 U	2.5 U	3 U	
4,4'-DDE			0.62 UJ		4.1 UJ	4 UJ	3.8 UJ	3.9 UJ	4 U	4.7 U	4 UJ	5.1 U	6.1 U	
Endrin			0.62 UJ		4.1 U	4 U	3.8 U	3.9 U	4 U	4.7 U	4 U	5.1 U	6.1 U	
Endosulfan II			0.62 UJ		4.1 UJ	4 UJ	3.8 UJ	3.9 UJ	4 U	4.7 U	4 UJ	5.1 U	6.1 U	
4,4'-DDD			3.97 J		4.1 U	4 U	3.8 U	3.9 U	4 U	4.7 U	4 U	5.1 U	6.1 U	
Endosulfan sulfate			0.62 UJ		4.1 U	4 U	3.8 U	3.9 U	4 U	4.7 U	4 U	5.1 U	6.1 U	
4,4'-DDT			4.19 J		4.1 U	4 U	3.8 U	3.9 U	4 U	4.7 U	4 U	2.9 J	6.1 U	
Methoxychlor			3.099 UJ		20 U	20 U	19 U	19 U	20 U	23 U	20 U	25 U	30 U	
Endrin Ketone			0.62 UJ		4.1 U	4 U	3.8 U	3.9 U	4 U	4.7 U	4 U	5.1 U	6.1 U	
Endrin aldehyde			0.62 UJ		4.1 U	4 U	3.8 U	3.9 U	4 U	4.7 U	4 U	3.4 J	6.1 U	
Toxaphene			310 UJ		203 U	198 U	192 U	193 U	198 U	234 U	199 U	256 U	303 U	
PCB Aroclors														
Aroclor 1016		6.55 UJ	6.2 UJ		41 U	40 U	38 U	39 U	40 U	47 U	40 U	51 U	61 U	
Aroclor 1221		13.1 U	6.2 UJ		81 U	79 U	77 U	77 U	79 U	94 U	80 U	102 U	121 U	
Aroclor 1232		6.55 U	6.2 UJ		41 U	40 U	38 U	39 U	40 U	47 U	40 U	51 U	61 U	
Aroclor 1242		6.55 U	6.2 UJ		41 U	40 U	38 U	39 U	40 U	47 U	40 U	283	61 U	
Aroclor 1248		6.55 U	6.2 UJ		41 U	40 U	38 U	39 U	40 U	47 U	40 U	51 U	61 U	
Aroclor 1254		31 J	12 J		41 U	40 U	38 U	39 U	40 U	47 U	40 U	51 U	61 U	
Aroclor 1260		21.3 J	6.2 UJ		47.75 J	40 U	38 U	39 U	40 U	47 U	40 U	232	61 U	
PCB Congeners														
PCB 105		0.636 J	0.703											
PCB 114		0.0282 UJ	0.0651											
PCB 118		1.21 J	1.27											
PCB 123		0.0544 J	0.673											
PCB 126		0.0287 UJ	0.0153 U											
PCB 156/157		0.86 J	0.76											
PCB 167		0.239 J	0.358											
PCB 169		0.0171 UJ	0.0297 U											
PCB 170		1.16 J												
PCB 189		0.0312 J	0.0329 U											
PCB 193/180		1.75 J												
PCB 77		0.023 J	0.0638											
PCB 81		0.0149 UJ	0.0264 J											
TEQ (no 170/193/180) Birds		0.00128515 J												
TEQ (no 170/193/180) Humans		0.00047805 J	0.00068875 J											

B.1.1 Soil Data Summary Table – Aberjona Property
Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

Property	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona
Location	AB-15	AB-13	AB-13	AB-15	AB-SS1	AB-SS2	AB-SS3	AB-SS4	AB-SS5	AB-SS6	AB-SS7	AB-SS8	AB-SS9	AB-14
Sample ID	AB15SS(0-2.0)	AB-13/0-2	AB13SS(0-2.0)	AB-15/4-4.5	AB-SS1D	AB-SS2D	AB-SS3D	AB-SS4D	AB-SS5D	AB-SS6D	AB-SS7D	AB-SS8D	AB-SS9D	AB14D(2.0-4.0)
Date	11/26/2002	12/2/2002	12/2/2002	12/2/2002	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	9/1/1993	11/26/2002
Soil (S)	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Top (ft)	0	0	0	4	4	4	4	4	3	3	3	3	3	2
Bottom (ft)	2	2	2	4.5	5	5	5	5	4	4	4	4	4	4
Metals														
Chromium (VI)	1000 U			1000 U	570 J	1000 U	411 J	1000 U	1000 U	1000 U	1332 J	16320	1000 U	4410
Aluminum	8940000			8600000 JEI	2372000 J	3765000 J	9544000 J	3130000 J	3563000	3386000	8346000 J	8926000	4841000	6260000
Antimony	320 UJ			1200 UJ	9100 UJ	8400 UJ	8500 UJ	8700 UJ	9000 U	11000 U	9400 U	11400 U	13800 U	3740
Arsenic	1530 J			3800 J	2500	2800	5909	1900 B	1409	2000	3300	42600 J	6000	3630
Barium	41000			130000 J	4700 B	3300 B	22700 B	3300 B	8200 B	16200 B	76400	203000	25800	39000
Beryllium	520			3100 J	165 B	150 B	450 B	160 B	160 B	200 B	170 B	410 B	490 B	430 U
Cadmium	1390 U			230 J	820 U	750 U	1100	780 U	800 U	980 U	1900	8200	1200 U	1430
Calcium	4490000 J			21000000 J	384000 B	128000 B	2220000	235000 B	1589000	1330000	7978000	7374000	1743000	6090000 J
Chromium	5540			9700 J	15700 J	6300 J	13700 J	5900 J	9000	6300	44409 J	544000	12500	147000
Cobalt	6390			2000 J	1850 B	1600 B	6900 B	1200 B	1600 B	1600 B	16300	13000	5800 B	7700
Copper	18000			7400 J	2550 B	1600 B	17700	2000 B	3000 B	1800 B	19400	224000	2500 B	38000
Cyanide	160 U			190	220 U	210 U	210 U	210 U	200 U	200 U	230 U	300 U	400 U	210 U
Iron	19100000			4900000 J	3182000 J	3167000 J	14467000 J	3130000 J	3584000	2646000	25750000 J	36639000	4260000	12800000
Lead	52000 J			13000 J	1500 J	1700 J	20400 J	1199 J	22900	1800	20200 J	637000	2700	146000
Manganese	3780000			2000000 J	668500 B	626000 B	3413000	728000 B	965000	832000 B	5689000	4669000	967000 B	2640000
Mercury	228000 J			92000 J	29400 J	21700 J	281000 J	25500 J	39500	30400	178000 J	320000	32500	163000
Nickel	79 U			41 J	85 J	100 U	110 UJ	80 U	105 U	128 U	90	1060	179 U	188 U
Potassium	7200			4560 J	1315 B	1300 B	6600 B	1100 B	8800	4100 B	4760 B	51400	6100 B	13000
Selenium	1490000 J			480000 J	51425 J	135000 B	331000 B	160000 B	268000 B	140000 B	2104000	1068000	146000 B	513000 J
Silver	649 UJ			3290	509 U	560 U	490 B	480 B	470 UJ	540 UJ	490 U	1600	2200	860 UJ
Sodium	320 U			250 J	820 U	750 U	780 U	780 U	860 U	980 U	1680 B	2700	1200 U	430 UJ
Thallium	32000 U			1190000 J	40500 U	37000 U	39600 B	38600 U	91700 B	112000 B	195000 B	317000 B	225000 B	216000 U
Vanadium	130 UJ			40 U	170 U	170 U	160 U	160 U	200 U	200 U	160 U	200 U	200 U	170 U
Zinc	27000			9800 J	4560 B	5190 B	25198	4700 B	6600 J	6700 J	44900	32600 J	20400 J	17090
	411000 J			18000 J	7050	6400	45000	6500	23900	9000	127000	1349000	11100	255000

B.1.1 Soil Data Summary Table – Aberjona Property
Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

Property	Aberjona	Aberjona	Aberjona	Aberjona
Location	AB-15	AB-13	AB-13	AB-102
Sample ID	AB15D(4.0-4.5)	AB13D(5.0-7.0)	AB-13/5-7	AB102(6.0)
Date	12/2/2002	12/2/2002	12/2/2002	12/2/2002
Soil (S)	S	S	S	S
Top (ft)	4	5	5	6
Bottom (ft)	4.5	7	7	6
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane				
1,2,3-Trichlorobenzene				
1,2,3-Trichloropropane				
1,2,4-Trimethylbenzene				
1,2-Dichloroethene (total)				
1,3,5-Trimethylbenzene				
1,3-Dichloropropane				
1,4-Dichlorobutane				
2,2-Dichloropropane				
2-Chloroethyl vinyl ether				
Acrolein				
Acrylonitrile				
Bromobenzene				
Bromochloromethane				
Dibromomethane				
Ethyl ether				
Ethyl methacrylate				
Hexachlorobutadiene				
Iodomethane				
m- & p- Xylenes				
n-Butylbenzene				700 J
n-Propylbenzene				
Naphthalene	2240 UJ			
o-Chlorotoluene				26000 J
o-Xylene				
p-Chlorotoluene				4100 J
p-Isopropyltoluene				
sec-Butylbenzene				
tert-Butylbenzene				
trans-1,4-Dichloro-2-butene				
Vinyl Acetate				
Dichlorodifluoromethane				
Chloromethane				
Vinyl chloride				
Bromomethane				
Chloroethane				
Fluorotrichloromethane				
1,1-Dichloroethene				
Freon 113				
Acetone				
Carbon disulfide				
Methyl acetate				
Methylene chloride				
trans-1,2-Dichloroethene				
Methyl tert-butyl ether				
1,1-Dichloroethane				
cis-1,2-Dichloroethene				
2-Butanone (MEK)				
Chloroform				
1,1,1-Trichloroethane				
Cyclohexane				
Carbon tetrachloride				
Benzene				
1,2-Dichloroethane				

5.1.1 Soil Data Summary Table – Aberjona Property
Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

Property	Aberjona	Aberjona	Aberjona	Aberjona
Location	AB-15	AB-13	AB-13	AB-102
Sample ID	AB15D(4.0-4.5)	AB13D(5.0-7.0)	AB-13/5-7	AB102(6.0)
Date	12/2/2002	12/2/2002	12/2/2002	12/2/2002
Soil (S)	S	S	S	S
Top (ft)	4	5	5	6
Bottom (ft)	4.5	7	7	6
Volatile Organic Compounds (cont.)				
Trichloroethene				
Methyl cyclohexane				
1,2-Dichloropropane				
Bromodichloromethane				
cis-1,3-Dichloropropene				
4-Methyl-2-pentanone				
Toluene				
trans-1,3-Dichloropropene				400 J
1,1,2-Trichloroethane				
Tetrachloroethene				
2-Hexanone				
Chlorodibromomethane				
Ethylenedibromide				
Chlorobenzene				
Ethylbenzene				
Xylenes (total)				4400 J
Styrene				4800 J
Bromoform				
Isopropylbenzene				
1,1,2,2-Tetrachloroethane				
1,3-Dichlorobenzene				
1,4-Dichlorobenzene				
1,2-Dichlorobenzene				
1,2-Dibromo-3-chloropropane				
1,2,4-Trichlorobenzene				
Semivolatile Organic Compounds				
Benzaldehyde				
Phenol				
2-Chlorophenol				
Bis(2-chloroethyl) ether				
2-Methylphenol				
2,2'-Oxybis(1-Chloropropane)				
Bis(2-chloroisopropyl) ether				
Acetophenone				
4-Methylphenol				
N-Nitrosodi-n-propylamine				
Hexachloroethane				
Nitrobenzene				
Isophorone				
2-Nitrophenol				
2,4-Dimethylphenol				
Bis(2-chloroethoxy) methane				
2,4-Dichlorophenol				
4-Chloroaniline				
Caprolactam				
4-Chloro-3-Methylphenol				
2-Methylnaphthalene	2240 UJ			
Hexachlorocyclopentadiene				32400 J
2,4,6-Trichlorophenol				
2,4,5-Trichlorophenol				
1,1'-Biphenyl				
2-Chloronaphthalene				
2-Nitroaniline				
Dimethyl phthalate				

B.1.1 Soil Data Summary Table – Aberjona Property
Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

Property	Aberjona	Aberjona	Aberjona	Aberjona
Location	AB-15	AB-13	AB-13	AB-102
Sample ID	AB15D(4.0-4.5)	AB13D(5.0-7.0)	AB-13/5-7	AB102(6.0)
Date	12/2/2002	12/2/2002	12/2/2002	12/2/2002
Soil (S)	S	S	S	S
Top (ft)	4	5	5	6
Bottom (ft)	4.5	7	7	6
Semivolatile Organic Compounds (c				
2,6-Dinitrotoluene				
Acenaphthylene	2240 UJ			6900 J
3-Nitroaniline				
Acenaphthene	2240 UJ			10000 J
2,4-Dinitrophenol				
4-Nitrophenol				
Dibenzofuran				
2,4-Dinitrotoluene				
Diethyl phthalate				
Fluorene	2240 UJ			860 UJ
4-Chlorophenyl phenyl ether				
4-Nitroaniline				
4,6-Dinitro-2-methylphenol				
N-Nitrosodiphenylamine				
4-Bromophenyl phenyl ether				
Hexachlorobenzene				
Atrazine				
Pentachlorophenol				
Phenanthrene	2240 UJ			5000 J
Anthracene	2240 UJ			2000 J
Carbazole				
Di-n-butyl phthalate				
Fluoranthene	2240 UJ			1900 UJ
Pyrene	2240 UJ			2500 J
Butyl benzyl phthalate				
3,3'-Dichlorobenzidine				
Benzo(a)Anthracene	2240 UJ			860 UJ
Chrysene	2240 UJ			860 UJ
Bis(2-ethylhexyl) phthalate				
Di-n-octyl phthalate				
Benzo(b)Fluoranthene	2240 UJ			860 UJ
Benzo(k)Fluoranthene	7900 J			860 UJ
Benzo(a)Pyrene	3700 J			860 UJ
Indeno(1,2,3-cd)pyrene	4700 J			860 UJ
Dibenz(a,h) anthracene	2800 J			1100 UJ
Benzo(g,h,i)perylene	2240 UJ			860 UJ
EPH / VPH				
C5-C8 Aliphatic, Unadjusted	1760 J			19000 J
C9-C12 Aliphatic, Unadjusted	1900 J			247000 J
C5-C8 Aliphatic	2000 J			19000 J
C9-C12 Aliphatic	1000 J			61000 J
C9-C10 Aromatic				177000 J
C11-C22 Aromatic, Unadjusted	147000 J			1790000 J
C9-C18 Aliphatic	13440 UJ			2430000 J
C19-C36 Aliphatic	46000 J			640000 J
C11-C22 Aromatic	128000 J			1720000 J

B.1.1 Soil Data Summary Table – Aberjona Property
Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

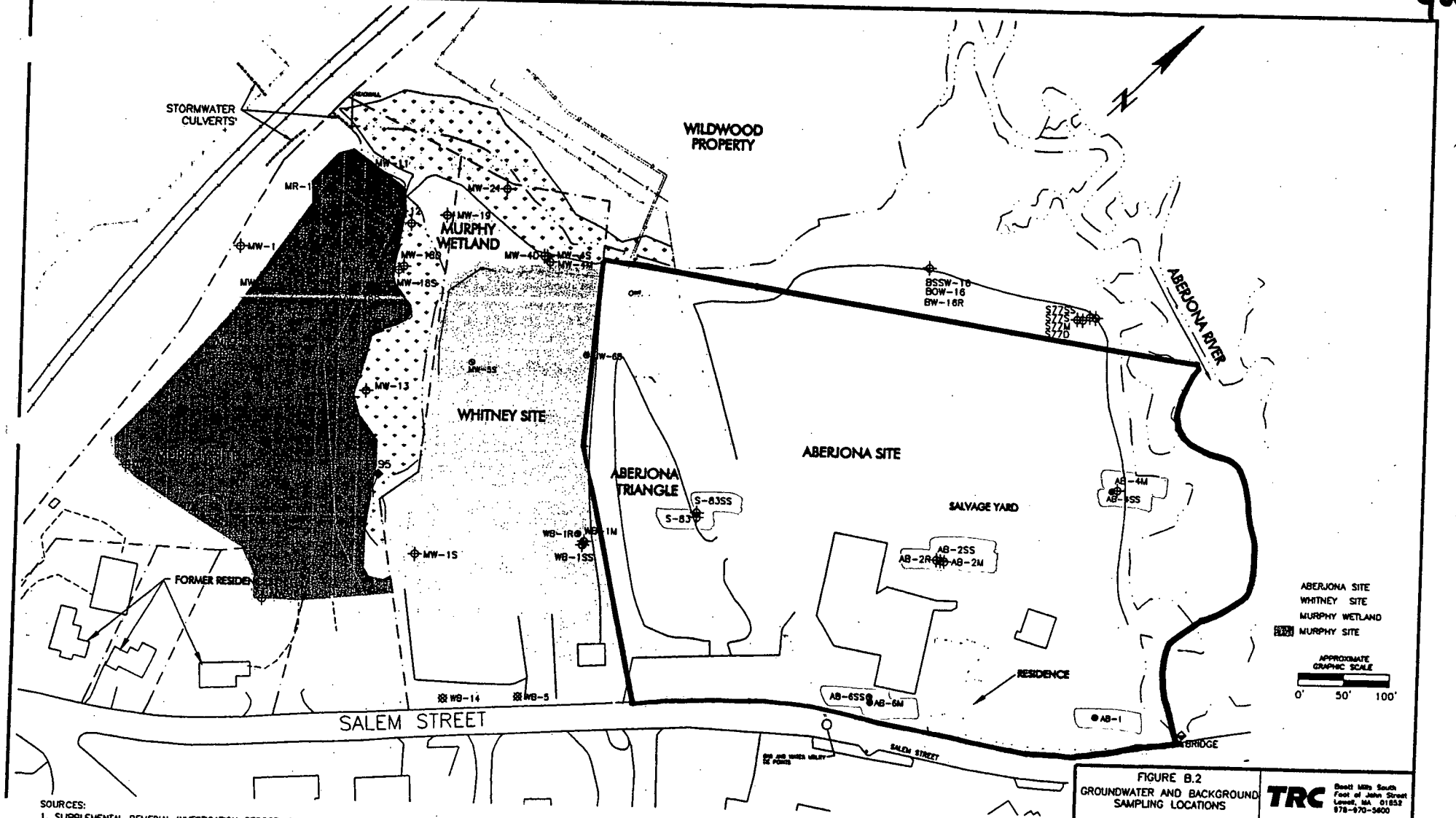
Property	Aberjona	Aberjona	Aberjona	Aberjona
Location	AB-15	AB-13	AB-13	AB-102
Sample ID	AB15D(4.0-4.5)	AB13D(5.0-7.0)	AB-13/5-7	AB102(6.0)
Date	12/2/2002	12/2/2002	12/2/2002	12/2/2002
Soil (S)	S	S	S	S
Top (ft)	4	5	5	6
Bottom (ft)	4.5	7	7	6
Pesticides				
alpha-Chlordane		6.33 J		
gamma-Chlordane		7.72 J		
PCBs				
alpha-BHC		0.315 UJ		
beta-BHC		0.315 UJ		
delta-BHC		0.315 UJ		
gamma-BHC		0.315 UJ		
Heptachlor		0.315 UJ		
Aldrin		0.315 UJ		
Heptachlor epoxide		0.315 UJ		
Endosulfan I		0.315 UJ		
Dieldrin		0.631 UJ		
4,4'-DDE		0.631 UJ		
Endrin		7.4 J		
Endosulfan II		0.631 UJ		
4,4'-DDD		0.631 UJ		
Endosulfan sulfate		19.7 J		
4,4'-DDT		0.631 UJ		
Methoxychlor		16.9 J		
Endrin Ketone		3.15 UJ		
Endrin aldehyde		0.631 UJ		
Toxaphene		315 UJ		
PCB Aroclors				
Aroclor 1016		6.3 UJ		
Aroclor 1221		6.3 UJ		
Aroclor 1232		6.3 UJ		
Aroclor 1242		6.3 UJ		
Aroclor 1248		6.3 UJ		
Aroclor 1254		6.3 UJ		
Aroclor 1260		34 J		
PCB Congeners				
PCB 105		1.97	3.1 J	
PCB 114		0.0408 U	0.14 J	
PCB 118		4.92	8.75 J	
PCB 123		1.05	0.121 J	
PCB 126		0.0591 U	0.0548 J	
PCB 156/157		1.979 J	1.73 J	
PCB 167		0.382 J	0.587 J	
PCB 169		0.0785 U	0.00693 UJ	
PCB 170			3.73 J	
PCB 189		0.0647 U	0.111 J	
PCB 193/180			6.52 J	
PCB 77		0.149 J	0.224 J	
PCB 81		0.0317 U	0.0185 UJ	
TEQ (no 170/193/180) Birds			0.0172727 J	
TEQ (no 170/193/180) Humans		0.00135232 J	0.00765147 J	

B.1.1 Soil Data Summary Table – Aberjona Property
Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

Property	Aberjona	Aberjona	Aberjona	Aberjona
Location	AB-15	AB-13	AB-13	AB-102
Sample ID	AB15D(4.0-4.5)	AB13D(5.0-7.0)	AB-13/5-7	AB102(6.0)
Date	12/2/2002	12/2/2002	12/2/2002	12/2/2002
Soil (S)	S	S	S	S
Top (ft)	4	5	5	6
Bottom (ft)	4.5	7	7	8
Metals				
Chromium (VI)	1000 U			
Aluminum	4880000			
Antimony	670 UJ			
Arsenic	2400			
Barium	64000			
Beryllium	2130			
Cadmium	2930			
Calcium	12200000 J			
Chromium	5050			
Cobalt	1350			
Copper	4650 U			
Cyanide	880			
Iron	2830000			
Lead	8710 J			
Magnesium	1060000			
Manganese	46900 J			
Mercury	227 U			
Nickel	2330			
Potassium	218000 J			
Selenium	1330 UJ			
Silver	670 UJ			
Sodium	1110000 J			
Thallium	300 UJ			
Vanadium	5299			
Zinc	9040 J			

ATTACHMENT 3

GROUNDWATER DATA: SAMPLING PLAN AND SUMMARY TABLES



SOURCES:

1. SUPPLEMENTAL REMEDIAL INVESTIGATION REPORT, SOUTHWEST PROPERTIES, VOLUME I OF XXIII, WELLS G&H SUPERFUND SITE, WOBURN, MASSACHUSETTS, AUGUST 2003

2. CLEAN HARBORS 1998, CORRECTIVE ACTION INVESTIGATION REPORT (PART II), VOLUME I OF 1, MURPHY'S WASTE OIL SERVICES, INC. WOBURN, MASSACHUSETTS, 1998.

LEGEND

STREAM OR WETLAND

PROPERTY LINE

FIGURE B.2
GROUNDWATER AND BACKGROUND SAMPLING LOCATIONS
SOUTHWEST PROPERTIES
WELLS G&H SUPERFUND SITE
OPERABLE UNIT 2
WOBURN, MASSACHUSETTS

TRC
Scott Mills South
Foot of John Street
Lowell, MA 01852
978-970-5600

TRC PROJ. NO.: 02138-0390-01467

EPA CONTRACT NO.: 68-W6-0042

Metcalf & Eddy

RAC SUBCONTRACT NO.: 107061

02138/SOUTHWEST/RISK ASSESSMENT/B2

B.2 Groundwater Summary Table
Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

Property	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Murphy	Murphy
Location	AB-01	AB-01	AB-02M	AB-02R	AB-02SS	AB-04M	AB-04SS	AB-06M	AB-06SS	AB6SS	AB-02SS	S83	S83SS	MR-1SS	MR-2SS
Sample ID	AB-1	AB1	AB2M	AB2R	AB2SS	AB4M	AB4SS	AB6M	AB-6SS	AB6SS	AB-2SS	S83	S83SS	MR-1SS	MR-2SS
Date	12/16/2002	12/16/2002	12/17/2002	12/17/2002	12/17/2002	12/19/2002	12/18/2002	12/17/2002	12/16/2002	12/16/2002	12/17/2002	12/19/2002	12/19/2002	11/8/2001	11/9/2001
Shallow	S	S			S		S		S	S	S		S	S	S
Volatile Organic Compounds															
1,1,1-Trichloroethane	10 U	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 U	0.3 UJ	0.3 UJ	10 U	0.3 U		0.5 U	0.3 U	10 U	10 U
1,1,2,2-Tetrachloroethane	0.1 U	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.1 U	0.08 UJ	1,1,2-TCA	0.08 UJ	0.08 UJ	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	10 U	1	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	10 U	1 U		1 U	1 U	10 U	10 U
1,1,2-Trichloroethane	0.1 U	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.1 U	0.08 UJ	1,1,2-TCA	0.08 UJ	0.08 UJ	10 U	10 U
1,1-Dichloroethane	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U		1 U	1 U	10 U	10 U
1,1-Dichloroethene	0.1 U	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.194	0.08 UJ	1,1-DCE	0.08 UJ	0.08 UJ	10 U	10 U
1,2,4-Trichlorobenzene	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U		1 U	1 U	10 U	10 U
1,2-Dibromo-3-chloropropane	0.1 UJ	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.1 UJ	0.01 U		0.01 U	0.01 U	10 U	10 U
1,2-Dichlorobenzene	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U		1 U	1 U	10 U	1 J
1,2-Dichloroethane	0.1 U	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.1 U	0.08 UJ	1,2-DCA	0.08 UJ	0.08 UJ	10 U	10 U
1,2-Dichloropropane	0.1 U	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.1 U	0.08 UJ	1,2-DCP	0.08 UJ	0.08 UJ	10 U	10 U
1,3-Dichlorobenzene	0.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.1 U	1 U		1 U	1 U	10 U	10 U
1,4-Dichlorobenzene	0.1 U	0.14 UJ	0.1 UJ	0.11 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.09 UJ	0.484	0.75 UJ	1,4-DCB	0.19 UJ	0.11 UJ	10 U	10 U
2-Butanone (MEK)	10 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	10 U	3 U		3 U	3 U	10 U	10 U
2-Hexanone	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 UJ	1 U		1 U	1 U	10 U	10 U
4-Methyl-2-pentanone	10 UJ	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 UJ	5 U		5 U	5 U	10 U	10 U
Acetone	10 U	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	10 U	5 U		5 U	5 U	10 U	10 UJ
Benzene	0.1 U	0.08 UJ	0.08 UJ	0.11 J	0.32 J	0.08 UJ	0.08 UJ	0.08 UJ	0.1 U	0.1 J	Benzene	0.08 UJ	0.08 UJ	5 U	4 J
Bromodichloromethane	0.1 U	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.1 U	0.08 UJ	bromodichloro methane	0.08 UJ	0.08 UJ	10 U	10 U
Bromoform	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U		1 U	1 U	10 U	10 U
Bromomethane	0.1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	0.1 U	1 U		1 U	1 U	10 U	10 U
Carbon disulfide	0.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.1 U	1 U		1 U	1 U	10 U	10 U
Carbon tetrachloride	0.1 U	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.1 U	0.08 UJ	CT	0.08 UJ	0.08 UJ	10 U	10 U
Chlorobenzene	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U		1 U	1 U	10 U	10 U
Chlorodibromomethane	0.1 U	0.49 J	0.08 UJ	0.08 UJ	0.285 J	0.08 UJ	0.33 UJ	1.51 J	0.1 U	1.03 J	chlorodibromo methane	0.08 UJ	0.08 UJ	10 U	10 U
Chloroethane	2 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	2 U	1 U		1 U	1 U	10 U	10 U
Chloroform	0.1 U	0.08 UJ	0.11 UJ	0.12 UJ	0.08 UJ	0.14 UJ	0.08 UJ	0.08 UJ	0.197	0.14 UJ	chloroform	0.08 UJ	0.08 UJ	10 U	10 U
Chloromethane	0.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.1 U	1 U		1 U	1 U	10 U	10 U
cis-1,2-Dichloroethene	2 U	1 U	5 J	11 J	29 J	1 U	1 U	1 U	8	8 J		1 U	1 U	10 U	110
cis-1,3-Dichloropropene	0.1 U	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.1 U	0.08 UJ	cis-1,3-DCP	0.08 UJ	0.08 UJ	10 U	10 U
Cyclohexane	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U		1 U	1 U	10 U	2 J
Dichlorodifluoromethane	10 U	1 U	1	1 U	1 U	1 U	1 U	1 U	10 U	1 U		1 U	1 U	10 U	10 U
Ethylbenzene	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U		1 U	1 U	5 U	5 U
Ethylenedibromide	0.1 U	0.01 U	0.01 U	0.01 U	0.01 UJ	0.01 U	0.01 U	0.01 U	0.1 U	0.01 U	eth	0.01 UJ	0.01 UJ	10 U	10 U
Fluorotrichloromethane	10 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	10 U	1 U		1 U	1 U	10 U	10 UJ
Isopropylbenzene	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U		1 U	1 U	10 U	0.3 J
m- & p- Xylenes		2 U	2 U	2 U	2 U	2 U	2 U	2 U		2 U		2 U	2 U	20 U	20 U
Methyl acetate (acetic acid, methyl ester)	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U		1 U	1 U	10 U	10 U
Methyl cyclohexane	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U		1 U	1 U	10 U	0.9 J
Methyl tert-butyl ether	10 U	1 U	1 U	1 U	1 U	1 U	4 J	1 U	10 U	1 U		1 U	14	10 U	10 U
Methylene chloride	2 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	2 U	1 U	m-TBE	1 U	1 U	1 U	0.2 U
o-Xylene		1 U	1 U	1 U	1 U	1 U	1 U	1 U		1 U		1 U	1 U	10 U	10 U
Styrene	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U		1 U	1 U	10 U	10 U
Tetrachloroethene	0.1 U	1 U	25 J	36 J	1 U	17	1 U	2 J	0.418	1 U		1 U	1 U	10 U	1 U
Toluene	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U		1 U	1 U	10 U	1 J
trans-1,2-Dichloroethene	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U		1 U	1 U	10 U	10 U
trans-1,3-Dichloropropene	0.1 U	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.1 U	0.08 UJ	trans-1,3-DCP	0.08 UJ	0.08 UJ	10 U	10 U
Trichloroethene	0.1 U	5 U	41 J	160 J	8 U	4 UJ	5 U	5 U	25	18 J		2 UJ	1 UJ	10 U	10 U
Vinyl chloride	0.1 U	0.08 UJ	0.49 J	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.153	0.24 J	VC	0.08 UJ	0.08 UJ	10 U	10
Xylenes (total)	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U		2 U	2 U	10 U	1 J

B.2 Groundwater Summary Table
Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

Property	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Murphy	Murphy
Location	AB-01	AB-01	AB-02M	AB-02R	AB-02SS	AB-04M	AB-04SS	AB-09M	AB-06SS	AB-06SS	AB-02SS	S83	S83SS	MR-1SS	MR-2SS
Sample ID	AB-1	AB1	AB2M	AB2R	AB2SS	AB4M	AB4SS	AB9M	AB-6SS	AB6SS	AB-2SS	S83	S83SS	MR-1SS	MR-2SS
Date	12/16/2002	12/16/2002	12/17/2002	12/17/2002	12/17/2002	12/19/2002	12/18/2002	12/17/2002	12/16/2002	12/16/2002	12/17/2002	12/19/2002	12/19/2002	11/8/2001	11/9/2001
Shallow	S	S			S		S		S	S	S		S	S	S
Semivolatile Organic Compounds															
Benzaldehyde															
Phenol									11 UJ						
2-Chlorophenol									11 UJ					10 UJ	11 UJ
Bis(2-chloroethyl) ether									11 U					10 U	11 U
2-Methylphenol									11 U					10 U	11 U
2,2'-Oxybis(1-Chloropropane)									11 UJ					10 U	11 U
Acetophenone									11 U					10 U	11 U
4-Methylphenol									11 U					10 U	11 U
N-Nitrosodi-n-propylamine									11 UJ					10 U	11 U
Hexachloroethane									11 U					10 U	11 U
Nitrobenzene									11 U					10 U	11 U
Isophorone									11 U					10 U	11 U
2-Nitrophenol									11 U					10 U	11 U
2,4-Dimethylphenol									11 U					10 U	11 U
Bis(2-chloroethoxy) methane									11 UJ					10 U	11 U
2,4-Dichlorophenol									11 U					10 U	11 U
Naphthalene									11 UJ					10 U	11 U
4-Chloroaniline					1.25 J				0.011 UJ	2.7				10 U	11 U
Hexachlorobutadiene									11 U					10 U	10 U
Caprolactam									11 U					10 U	11 U
4-Chloro-3-Methylphenol									11 UJ					10 U	11 U
2-Methylnaphthalene									11 UJ					10 U	11 U
Hexachlorocyclopentadiene					1 U				11 U	4.1 U				10 U	10 U
2,4,6-Trichlorophenol									11 UJ					10 UJ	11 UJ
2,4,5-Trichlorophenol									11 UJ					10 U	11 U
1,1'-Biphenyl									11 U					26 U	26 U
2-Chloronaphthalene									11 U					10 U	11 U
2-Nitroaniline									11 U					10 U	11 U
Dimethyl phthalate									11 U					26 U	26 U
2,6-Dinitrotoluene									11 U					10 U	11 U
Acenaphthylene									11 U					10 U	11 U
3-Nitroaniline					1 U				11 U	1 U				10 U	10 U
Acenaphthene					3.9 J				11 U	5 U				26 U	26 U
2,4-Dinitrophenol														10 U	10 U
4-Nitrophenol														26 UJ	26 UJ
Dibenzofuran									11 UJ					26 U	26 U
2,4-Dinitrotoluene									11 U					10 U	11 U
Diethyl phthalate									11 U					10 U	11 U
Fluorene					5 U				11 U	5 U				10 U	11 U
4-Chlorophenyl phenyl ether									11 U					10 U	10 U
4-Nitroaniline									11 U					10 U	11 U
4,6-Dinitro-2-methylphenol									11 UJ					26 U	26 U
N-Nitrosodiphenylamine									11 UJ					26 U	26 U
4-Bromophenyl phenyl ether									11 U					10 U	11 U
Hexachlorobenzene									11 UJ					10 U	11 U
Atrazine									11 UJ					10 U	11 U
Pentachlorophenol									11 UJ					10 UJ	11 UJ
Phenanthrene					0.9 J				11 U	2.1				26 U	26 U
Anthracene					5 U				11 U	5 U				10 U	10 U
Carbazole									11 U					10 U	10 U
Di-n-butyl phthalate									11 U					10 U	11 U
Fluoranthene					5 U				11 U	5 U				10 U	10 U
Pyrene					5 U				11 U	5 U				10 U	10 U
Butyl benzyl phthalate									11 U					10 U	11 U

B.2 Groundwater Summary Table
Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

Property	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Murphy	Murphy
Location	AB-01	AB-01	AB-02M	AB-02R	AB-02SS	AB-04M	AB-04SS	AB-06M	AB-06SS	AB-06SS	AB-02SS	S83	S83SS	MR-1SS	MR-2SS
Sample ID	AB-1	AB1	AB2M	AB2R	AB2SS	AB4M	AB4SS	AB6M	AB-6SS	AB6SS	AB-2SS	S83	S83SS	MR-1SS	MR-2SS
Date	12/16/2002	12/16/2002	12/17/2002	12/17/2002	12/17/2002	12/19/2002	12/18/2002	12/17/2002	12/16/2002	12/16/2002	12/17/2002	12/19/2002	12/19/2002	11/8/2001	11/9/2001
Shallow	S	S			S		S		S	S	S		S	S	S
Semivolatile Organic Compounds (cont.)															
3,3'-Dichlorobenzidine									11 U						
Benzo(a)Anthracene					1 U				0.014	1 U				10 U	11 U
Chrysene					2 U				0.015	2 U				10 U	10 U
Bis(2-ethylhexyl) phthalate									11 U					10 U	10 U
Di-n-octyl phthalate									11 U					10 U	0.6 U
Benzo(b)Fluoranthene					1 U				0.015	1 U				10 U	11 U
Benzo(k)Fluoranthene					1 U				0.014 J	1 U				10 U	10 U
Benzo(a)Pyrene					1 U				0.011	1 U				10 U	10 U
Indeno(1,2,3-cd)pyrene					1 U				0.014	1 U				10 U	10 U
Dibenz(a,h) anthracene					1 U				0.013	1 U				10 U	10 U
Benzo(g,h,i)perylene					5 U				11 UJ	5 U				10 U	10 U
EPH / VPH															
C9-C18 Aliphatic					50 U					50 U				61 U	60 U
C11-C22 Aromatic					50 U					50 U				170 U	170 U
C19-C36 Aliphatic					50 U					50 U				1600	240
C11-C22 Aromatic, Unadjusted					50 U					50 U					
C5-C8 Aliphatic					50 U					50 U				40 U	74.2
C9-C10 Aromatic					50 U					50 U				10 U	10 U
C9-C12 Aliphatic					50 U					50 U				10 U	10 U
C5-C8 Aliphatic, Unadjusted					50 U					50 U					
C9-C12 Aliphatic, Unadjusted					50 U					50 U					
Pesticides															
alpha-Chlordane					0.00425 J										
gamma-Chlordane					0.005 U										
alpha-BHC															
beta-BHC					0.00625 J										
delta-BHC					0.005 U										
gamma-BHC					0.00475 J										
Heptachlor					0.005 U										
Aldrin					0.005 U										
Heptachlor epoxide					0.005 UJ										
Endosulfan I															
Dieldrin					0.014 J										
4,4'-DDE					0.01 UJ										
Endrin					0.01 UJ										
Endosulfan II															
4,4'-DDD					0.01 UJ										
Endosulfan sulfate															
4,4'-DDT					0.011 J										
Methoxychlor					0.075 J										
Endrin Ketone															
Endrin aldehyde					0.01 UJ										
Toxaphene					0.5 U										
PCB Aroclors															
Aroclor 1016					0.1 U						0.02 UJ				
Aroclor 1221					0.1 U						0.02 U				
Aroclor 1232					0.1 U						0.02 U				
Aroclor 1242					0.1 U						0.02 U				
Aroclor 1248					0.1 U						0.02 U				
Aroclor 1254					0.1 U						0.02 U				
Aroclor 1260					0.1 U						0.02 UJ				

B.2 Groundwater Summary Table
Wells G&H Superfund Site, Operable Unit 2
Woburn, Massachusetts

Property	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Aberjona	Murphy	Murphy
Location	AB-01	AB-01	AB-02M	AB-02R	AB-02SS	AB-04M	AB-04SS	AB-06M	AB-06SS	AB-6SS	AB-06SS	AB-02SS	S63	S63SS	MR-1SS	MR-2SS
Sample ID	AB-1	AB1	AB2M	AB2R	AB2SS	AB4M	AB4SS	AB6M	AB6SS	AB6SS	AB6SS	AB-2SS	S63	S63SS	MR-1SS	MR-2SS
Date	12/16/2002	12/16/2002	12/17/2002	12/17/2002	12/17/2002	12/19/2002	12/18/2002	12/17/2002	12/16/2002	12/16/2002	12/16/2002	12/17/2002	12/19/2002	12/19/2002	11/6/2001	11/9/2001
Shallow	S	S			S		S		S	S		S		S	S	S
PCB Congeners																
PCB 105					0.0000348 U										0.01 U	0.01 UJ
PCB 114					0.0000328 U										0.01 U	0.01 U
PCB 118					0.0000295 U										0.01 U	0.01 U
PCB 123					0.0000316 U										0.01 U	0.01 U
PCB 126					0.0000404 U										0.01 U	0.01 U
PCB 156/157					0.0000506 U										0.01 U	0.01 U
PCB 157															0.01 U	0.01 U
PCB 167					0.0000484 U										0.01 U	0.01 U
PCB 169					0.0000618 U										0.01 U	0.01 U
PCB 170															0.01 U	0.01 U
PCB 189					0.0000682 U										0.01 U	0.01 U
PCB 193/180															0.01 U	0.01 U
PCB 77					0.0000254 U										0.01 U	0.01 U
PCB 81					0.0000298 U										0.01 U	0.01 U
TEQ (no 170/193/180) Birds															0.01 U	0.01 U
TEQ (no 170/193/180) Humans																
Metals																
Chromium (VI)		10 U	10 U	10 U	10 U	10 U	10 U	10 U		10 U			10 U	10 U	10 U	10 UJ
Cyanide		3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U			7	3 U		
Aluminum		248	18.3 U	157	31 U	30 U	224	368	74.7 J	478			2220	27 U		
Antimony		1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	0.019 UJ	1.3 UJ			1.3 UJ	1.3 UJ		
Arsenic		2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 J	2.5 UJ	0.37 UJ	2.5 UJ			2.5 UJ	2.5 UJ	20.2	4.4 U
Barium		26	17	43	63	35	19	16	15.5 J	37			26	9.9		
Beryllium		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.006 UJ	1.3 U			1.3 U	1.3 U		
Cadmium		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.03 J	1.3 U			1.3 U	1.3 U	1.4 J	0.8 U
Calcium		46800	48300	62000	31800	52000 J	16900	20500	8680	28500			25800 J	26000 J		
Chromium		13	1.6 U	7	2.2 U	1.3 U	5.9	1.5 U	1.2	1.9 U			11 J	1.8 U	113 J	0.9 U
Cobalt		1.3 U	3.2	8.1	3.25	6.1	1.3 U	6.7	0.568 J	1.3 U			1.3 U	7.9		
Copper		5 U	5 U	5 U	5 U	5 U	5 U	7 U	1.39 UJ	5 U			5 U	5 U		
Iron		19100	43.6 U	391	1225	51 U	5060	552	116	407			1220	43 U		
Lead		1.6 U	1.3 U	1.5 U	1.5 U	8 U	4.2 U	1.3 U	0.064 UJ	1.4 U			20 U	1.3 U	148 J	13.8 J
Magnesium		6950	9920	12300	4100	9910	2950	4760	4600	4780			2200	5780		
Manganese		824	100	182	287	1800	392	106	396 J	415			13	116		
Mercury		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.1 U	0.2 U			0.2 U	0.2 U		
Nickel		6.7	2	4.7	3.4	3.1	2.6	2.4	1.22 UJ	2.2			6.8	2.2		
Potassium		5600 J	6800 J	7750 J	7600 J	6000 J	2660 J	4950 J	4580	7130 J			6550 J	4350 J		
Selenium		2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	0.3 J	2.5 UJ			2.5 UJ	2.5 UJ		
Silver		1.3 UJ	1.3 UJ	1.3 UJ	1.3 U	1.3 UJ	1.3 UJ	1.3 UJ	0.063 UJ	1.3 UJ			1.3 UJ	1.3 UJ		
Sodium		75000 J	46300 J	42900 J	37700 J	50600 J	17400 J	78000 J	1940000	51000 J			17200 J	60500 J		
Thallium		2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	0.016 J	2 UJ			2 UJ	2 UJ		
Vanadium		3.4	1.3 UJ	1.3 U	1.5 U	1.3 U	1.5 U	1.3 U	0.6 U	1.3 U			2.3 J	1.3 U		
Zinc		15 U	15 U	18 U	53 U	21 U	22 U	17 U	0.97 UJ	15 U			77	17 U		

ATTACHMENT 4

ENVIRONMENTAL PROTECTION PROCEDURES

ENVIRONMENTAL PROTECTION PROCEDURES

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Furnishing all labor, materials, and equipment and perform all work required for the prevention of environmental pollution in conformance with applicable laws and regulations, during and as the result of construction operations under this Contract. For the purpose of this Section, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for aesthetic and/or recreational purposes.

B. The control of environmental pollution requires consideration of air, water and land, and involves management of noise and solid waste, as well as other pollutants. Work shall include installing, maintaining and removing sedimentation and erosion control components within the limits of work.

1.02 SECTION INCLUDES

A. Applicable Regulations
B. Definitions
C. Notifications
D. Scheduling and Sequencing
E. Construction Entrance
F. Erosion Control
G. Perimeter Air Monitoring
H. Dust Control
I. Protection of Water Resources
J. Protection of Land Resources
K. Protection of Air Quality
L. Maintenance of Pollution Control Facilities during Construction
M. Noise Control

1.03 APPLICABLE REGULATIONS

A. The Contractor shall comply with all applicable Federal, State, and local laws and regulations concerning environmental pollution control and abatement.

B. All erosion and sedimentation control work shall comply with applicable requirements of governing authorities having jurisdiction. These specifications

are not comprehensive, but rather convey the intent to provide complete slope protection and erosion control for both 280 Salem Street LLC the Site and the adjacent properties.

C. Fines and related costs resulting from failure to provide adequate protection against soil erosion and sedimentation are the obligation of the Contractor.

D. Erosion and sedimentation control measures employed will be subject to approval and inspection by governing agencies having jurisdiction over such work.

1.04 DEFINITIONS

A. Environmental Pollution and Damage: The presence of chemical, physical, or biological elements or agents that adversely affect human health or welfare; unfavorably alter ecological balances of plant or animal communities; or degrade the environment from an aesthetic, cultural or historic perspective. Environmental protection is the prevention/control of pollution and habitat disruption that may occur during construction. The control of environmental pollution and damage requires consideration of air, water, land, biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive materials; and other pollutants.

1.05 NOTIFICATIONS

A. 280 Salem Street LLC or its designees may notify the Contractor in writing of any non-compliance with the foregoing provisions or of any environmentally objectionable acts and corrective action to be taken. State or local agencies responsible for verification of certain aspects of the environmental protection requirements may notify the Contractor in writing, through 280 Salem Street LLC, of any non-compliance with the State or local requirements. After receipt of such notice from 280 Salem Street LLC or from the regulatory agency through 280 Salem Street LLC, the Contractor shall immediately take corrective action. Such notice, when delivered to the Contractor or his/her authorized representative at the site of the Work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, 280 Salem Street LLC may issue an order stopping all or part of the Work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it is later determined that the Contractor was in compliance.

1.06 SCHEDULING AND SEQUENCING

A. Erosion control measures shall be established at the beginning of construction and maintained during the entire period of construction. On-site areas that are subject to severe erosion, and off-site areas that are especially vulnerable to

damage from erosion and/or sedimentation shall be identified and receive special attention.

B. Erosion control measures shall be installed around the Site prior to the commencement of work.

C. All land-disturbing activities shall be planned and conducted to minimize the size of the area exposed at any one time and the length of the time of exposure.

D. Surface water runoff originating from upgrade of exposed areas shall be controlled to reduce erosion and sediment loss during the period of exposure.

E. All land-disturbing activities shall be planned and conducted in a manner, which minimizes off-site sedimentation damage.

F. Erosion control measures shall be removed when the vegetative cover has been established and the site is permanently stabilized. Proper disposal of erosion and sediment control materials shall be the responsibility of the Contractor.

G. Clearing activities shall be performed only after erosion and sediment controls are in place.

PART 2 PRODUCTS

2.01 STRAW BALES

A. Straw bales shall consist of straw from acceptable grasses and legumes, free from weeds, reeds, twigs, chaff, debris, other objectionable material or excessive amounts of seeds and grain. It should be free from rot or mold, and the moisture content shall not exceed fifteen (15) percent of weight at the time of weighing. The straw shall be securely baled with wire of adequate size to allow for rusting while in use and to permit re-handling when the bale is in a saturated condition. Individual bales shall be of a longitudinal shape not exceeding one hundred (100) pounds when baled.

2.02 SILT FENCE

A. Material characteristics for the silt fence fabric are presented below.

Physical and Mechanical Properties of Silt Fence

Property	Test Method	Required Minimum Value	Unit
Unit Weight	ASTM D3776	5	oz/yd2
Thickness	ASTM D177764	80	mils
Puncture Strength	ASTM D4833	60	lbs
Apparent Opening Size (AOS)	ASTM D4751	40 (0.425)	US Std Sieve (mm)
Grab Tensile Strength	ASTM D4632	100 x 100	lbs
Grab Elongation	ASTM D4632	15 x 15	%

Property	Test Method	Required Minimum Value	Unit
Trapezoidal Tear Strength	ASTM D4533	60 x 60	lbs
Mullen Burst Strength	ASTM D3786	350	psi
Permittivity	ASTM D4491	0.9	cm/sec
Water Flow Rate	ASTM D4491	75	gpm/ft
UV Resistance[3] (@ 500 hrs.)	ASTM D4355	90	% strength retained at 500 hours

Table Notes:
1. Properties to reflect minimum average roll values (MARV).
2. Manufacturer's certification required which states product exceeds required value for typical roll values.

2.03 WATER

A. Water used for dust control and equipment washes shall be clean and free of salt, oil, and other injurious materials.

PART 3 EXECUTION

3.02 EROSION CONTROL

A. No materials from excavations, stockpiles or site preparation activities shall be deposited within 25 feet of any body of water or within 25 feet of a wetland boundary or within a wetland buffer zone without compliance under provisions of the Wetlands Protection Act and the Rivers Protection Act.

B. The Contractor shall be responsible for the timely installation and maintenance of all sedimentation control devices necessary to prevent the movement of sediment from the site to off site areas or in the adjacent stream system via surface runoff. Measures necessary to prevent the movement off-site of sediment shall be installed, maintained, removed, and cleaned at the expense of the Contractor. No additional charges to 280 Salem Street LLC will be considered.

C. Erosion control measures shall consist of a straw bale and silt fence sedimentation barrier. Straw bales and silt fence shall be installed as shown on the drawings.

D. Surface water runoff originating from upland exposed areas shall be controlled to reduce erosion and sediment loss during the period of exposure.

3.03 STRAW BALE BARRIER INSTALLATION

A. Straw bale barriers shall be installed around all catch basins located within Limits of Work, around all stockpiled soil, and between the Work area and any environmentally sensitive areas when these areas are within 100 feet of the Work area, and as shown on the drawings.

B. Excavation shall be the width of the bale and the length of the proposed barrier to a minimum depth of 4 inches.

C. Bales shall be placed in a single row, length wise on proposed line, with ends of adjacent bales tightly abutting one another. In swales, the barrier shall extend to such a length that the bottoms of the end bales are higher in elevation than the top of the lowest bale.

D. Staking shall be accomplished to securely anchor bales by driving at least two stakes or rebar through each bale.

E. Gaps between bales shall be filled with straw to prevent water from channeling between the bales.

F. Any straw bales, which become clogged or otherwise deteriorate, shall be properly maintained or replaced as necessary by the Contractor at no additional cost to 280 Salem Street LLC .

3.04 SILT FENCE INSTALLATION

A. The Contractor shall install the pre manufactured silt fencing in accordance with the manufacturer's recommendations and the details on the drawings.

3.06 PERIMETER AIR MONITORING

A. The implementation of the environmental monitoring program will be the responsibility of the Contractor. The Contractor will be responsible for preparing and enforcing an air monitoring program specific to the site that demonstrates compliance with these limits.

1. Background Dust Monitoring and Sampling - Prior to construction, at least two days of perimeter dust monitoring will be conducted during the anticipated 8-hour workday period at an upwind and downwind location relative to the Site. Real-time dust monitoring will be conducted as described below to establish background concentrations of contaminants of concern in ambient air, one upwind and one downwind ambient air sample will be collected each day for two days prior to the start of work. Samples will be collected and analyzed as described below.

2. Perimeter Air Monitoring and Sampling - To be protective of the surrounding residential population, perimeter air monitoring and sampling will be performed to demonstrate that the Site is not creating a significant off-site impact to air quality and the surrounding residential population. Meteorological monitoring (wind speed, direction and temperature) will be conducted continuously and recorded from a station located at least 10 feet above the ground surface. The actual location of the meteorological monitoring station

must conform to siting criteria contained in the US Army Corps of Engineers (ACOE) Manual entitled *Design, Installation and Utilization of Fixed-Fence line Sample Collection and Monitoring Systems(EM 200-1-5 1 October 1997).*

B. Real-time Perimeter Air Monitoring – An upwind and downwind monitoring station will be set up. Upwind and downwind locations will be established on a daily basis based using site specific meteorological data in combination with siting criteria for particulate monitors contained in the above ACOE Engineering Manual. Each station will be outfitted with a real-time particulate monitor for monitoring of Total Particulate (TSP/PM) concentrations in ambient air (MIE/TECO Data Ram, Met One ES-640 or Performance Equivalent Unit). Real-time dust monitoring results will be compared an action level of 150 µg/m3 (24 hour average) for TP/PM. If dust concentrations are greater than 150 µg/m3 (24 hour average) increased dust suppression measures will be taken to reduce off-site dust. Each of the two (2) real time TP monitors should be equipped with a device capable of activating a visible or audible alarm or cell phone pager in the event of an exceedance. If dust suppression measures are not effective in reducing dust concentrations, the work shall halt until appropriate dust suppression measures could be implemented. Data obtained from the TP monitors will be periodically reviewed during the day, placed in EXCEL spreadsheet format and summarized for reporting to USEPA and MADEP. The latter will include TP concentrations versus time (data collected and plotted as 5 minute average concentrations) for data collected at each of the two stations. Monitoring data collected during the workday shall be used by the Contractor to modify work practices or implement dust control measures to ensure that dust emissions do not exceed either the 500 µg/m3 (24-hour average) or 150 ug/m3 (5 minute average) site-specific action levels. Analysis of reduced data will include comparison of data from each station expressed as a 24-hour average to the 500 µg/m3 site-specific action level. These analyses will be done for all stations.

3.07 DUST CONTROL

A. The Contractor shall implement strict dust control measures during active construction periods on-site. These control measures shall generally consist of water applications that shall be applied a minimum of once per day during dry weather or more often as required to prevent dust emissions, or as directed by the Engineer or 280 Salem Street LLC . Road sweeping may also be necessary.

B. The Contractor shall avoid the use of excessive quantities of water, which could enter excavations and result in the leaching of contaminants in either groundwater or storm water runoff.

C. Existing paved roads shall be used by the Contractor whenever possible.

D. These provisions do not supersede any specific requirements for methods of construction or applicable general conditions set forth with added regard to performance obligations of the Contractor.

3.08 PROTECTION OF WATER RESOURCES

A. Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters.

B. Contractor shall not enter, disturb, destroy, or allow discharge of contaminants into any wetlands. Contractor shall be responsible for the protection of wetlands.

C. Care shall be taken to prevent damage to any stream or wetland from pollution by debris, sediment or other material. Manipulation of equipment and/or materials outside of the work area is prohibited. Water that has been used for washing or processing, or that has been derived from dewatering activity, or that contains oils or sediments that will reduce the quality of the water in the any stream or wetland, shall not be discharged to any stream or wetland. Any project wastewater will be collected and disposed of in accordance with all applicable Federal, State and local regulations.

3.09 PROTECTION OF LAND RESOURCES

A. After completion of the project, undeveloped land resources within the work area shall be restored to a natural appearing condition that does not detract from the appearance of the project. Construction activities shall be confined to areas shown on the Drawings.

B. Outside of the area of Work, as shown on the Drawing, do not deface, injure, or destroy trees or shrubs, nor remove or cut them without prior approval of 280 Salem Street LLC .

C. The locations of storage, decontamination pad, and other facilities, required in the performance of the Work, shall be cleared portions of the job site or areas to be cleared as shown on the Drawings and shall not be within a wetlands or resource areas or within the a 100 foot buffer zone to a wetlands.

D. Remove all signs of temporary construction facilities such as Work areas, structures, stockpiles of excess of fill materials, stockpile and decontamination pads, or any other vestiges of construction by the completion of Work.

3.10 PROTECTION OF AIR QUALITY

A. The use of burning at the project site for the disposal of refuse and debris is not permitted.

B. Maintain all excavations, stockpiles, waste areas, and all other work areas within or without the project boundaries free from the dust. Nuisance dust conditions

will not be permitted. Contractor shall control dust through the use of sprayed water and other dust suppression agents or street sweeping.

3.11 MAINTENANCE OF POLLUTION CONTROL FACILITIES DURING CONSTRUCTION

A. Maintain all facilities constructed for pollution, erosion, and siltation control as long as the operations creating the particular pollutant are being carried out.

B. The hay bale/silt fence barrier shall be inspected by the Contractor once per week and after storm events of ½–inch of rain or more. Accumulated material shall be removed from the barrier when it reaches one-third the height of the barrier. A minimum of 100 feet of silt fence and 20 hay bales shall be maintained on the Site, under protective cover, for routine maintenance and emergency repair.

C. At end of work, remove both silt fence/straw bale and all accumulated silt. Dispose of silt and waste materials in proper manner.

3.12 NOISE CONTROL

A. Contractor shall make every effort to minimize noises caused by the work of this Contract. Equipment shall be equipped with silencers or mufflers designed to operate with the least possible noise in compliance with Federal and State regulations.

END OF SECTION

ATTACHMENT 5

STOCKPILE MANAGEMENT PROCEDURES

STOCKPILE MANAGEMENT PROCEDURES

PART 1 GENERAL

1.1 WORK DESCRIPTION

A. The Contractor shall furnish all labor, material, tools and equipment necessary for tracking, handling, segregating, stockpiling, and temporary storage of soils excavated as part of the Work, and for transport and disposal of fluids and solids generated during decontamination of vehicles and personnel as part of this Work.

1.2 SECTION INCLUDES

A. Management of Excavated Materials.

B. Material Tracking, Stockpile Sampling and Analysis.

C. On-Site Disposal of Excess Clean Soil

1.3 SUBMITTALS

A. Soil tracking documentation shall be submitted daily and at project close out.

1.4 REGULATORY REQUIREMENTS

A. The Work of this Section shall be performed in accordance with all applicable Federal, State, and local regulations, laws, codes, and ordinances governing the handling, transportation, and disposal of hazardous materials.

1.5 DEFINITIONS

A. Contaminated Soil: Soils or fills determined by analytical results to contain any contaminant in excess of a calculated risk-based cleanup criteria and standards presented within the MCP with consideration for the presence of urban fill.

1.6 QUALITY ASSURANCE

A. The Engineer's duties do not include supervision or direction of the actual work by the Contractor, his employees or agents. Neither the presence of the Engineer nor any observation and testing by the Engineer shall excuse the Contractor from defects discovered in his Work.

PART 2 PRODUCTS

2.1 GENERAL

A. The Contractor shall provide all employees and Subcontractor(s) with personal protective equipment and protective clothing consistent with the levels of protection for this Work as indicated in the Contractor's Site Health and Safety Plan.

2.2 POLYETHYLENE SHEETING

A. Excavated soils shall be stockpiled on and covered with 10-mil reinforced polyethylene sheeting until the soil is loaded for off-site disposal or placed on site as backfill.

B. The polyethylene shall be manufactured of new, first quality product designed and manufactured specifically for the intended use and have the following properties:

1. The material shall be at least 2-ply polyethylene reinforced with a nonwoven grid of nylon.

2. The material shall be U.V. resistant (black in color) and cold crack resistant to 40 degrees F.

3. The material shall be manufactured in a minimum 12 foot seamless width. Labels on the rolls shall identify the thickness, length, width, and manufacturer's mark number.

PART 3 EXECUTION

3.1 GENERAL

A. Existing on-site soils may be contaminated with metals, total petroleum hydrocarbons volatile organic compounds and polycyclic aromatic hydrocarbons.

B. The Contractor shall perform all soil excavation and management work in accordance with a Contractor Site Health and Safety Plan.

C. All site health and safety controls shall be fully established and in operation prior to beginning any soil excavation. Site controls shall include but not be limited to work zones properly barricaded, decontamination facilities, and all support equipment and supplies including personal protective equipment. All site controls shall be reviewed by the Engineer in the field.

D. The Contractor shall stockpile all excavate soils including but not limited to the following:

1. The existing layer of topsoil where present;

2. Soil excavated for the installation of underground utilities and drainage structures; and,

3. Soil excavated to construct building footings.

E. The Contractor shall maintain all required field controls throughout the performance of the Work.

F. Solid waste, likely in the form of building demolition debris or automobile parts, may be encountered during excavation. Soil with significant solid waste shall be segregated and stockpiled separately.

G. Contractor shall stockpile soils in individual stockpiles not to exceed 10 to 15 feet in height within the designated stockpile area.

H. The stockpile area(s) shall be selected by the Contractor and approved by the Engineer.

3.2 MANAGEMENT OF EXCAVATED SOILS

A. The Contractor shall temporarily stockpile excavated soils on-site in stockpiles pending chemical characterization for final disposal. Analysis of soil is not required for soil designated for reuse presuming there is no evidence of contamination based on visual inspection and field screening

B. Separate stockpiles shall be constructed for (1) topsoil (2) inorganic soil and (3) solid waste.

C. All stockpiles shall be placed on and covered with 10-mil nylon reinforced polyethylene sheeting when not in active use or at the end of each day. Overlap panels of sheeting a minimum of three feet. The cover shall be adequately secured to prevent damage or loss by wind or other weather elements. Polyethylene sheeting shall be immediately replaced if damaged or lost.

D. Separate stockpiles shall be constructed for each type of material excavated and/or processed.

E. Stockpiles shall be no more than 10-15 feet in height and slopes should not exceed any steepness that may prevent the safe or effective placement of polyethylene sheeting.

F. The transfer of soils from the excavation to the stockpile areas shall be conducted in such a manner as to prevent the spread of contaminated material or potentially contaminated material across the site. Excavation, material handling and stockpiling shall be performed in a manner which limits the mixing of materials with different levels and types of contamination to the highest degree possible. Disposal of material which is contaminated as a result of the Contractor's careless or unauthorized procedures for excavation, material handling and/or stockpiling shall be at Contractor's own expense.

G. Maintenance of the stockpiles shall be the responsibility of the Contractor.

H. At least three (3) days prior to excavating materials for transfer to the stockpile area or the transfer of materials off-site, the Engineer shall be notified in writing of the intended operation. No material shall be removed from the Site without suitable segregation, stockpiling, sampling, testing, and classification.

I. The clearing and preparing of stockpile areas and the grading, polyethylene barriers, hay bale berms, and all other materials, equipment, and labor required for the protection of the excavated material will be considered incidental to the excavation of the soil and will not be separately measured for payment or will separate payment be made.

3.3 MATERIAL TRACKING, STOCKPILE SAMPLING, AND ANALYSIS

A. The stockpiles shall be tracked to provide complete data necessary to locate any stockpile within the site and the origin of the soil within each stockpile. The Contractor shall create a site grid system to facilitate soil tracking. All work necessary to coordinate stockpiling from placement to disposal shall be included. The Contractor shall provide Engineer with duplicate copies of all documentation at the time of stockpiling.

B. The Contractor shall provide to the Engineer, on a daily basis, copies of field records documenting the location of stockpiled material in the grid system designed to allow future identification of the sample locations, and stockpile identification data.

C. The Contractor shall track all soils from excavation to final disposition.

D. The Engineer will collect and analyze samples of the stockpiled soil for chemical characterization to determine if the soils can be re-used on-Site or must be disposed of off-Site.

E. The Contractor shall transport and dispose of soil that is deemed unsuitable for use as on-site backfill and soils identified by Engineer as contaminated at an off-site disposal facility in accordance with applicable regulations.

F. The Contractor shall maintain a log of materials removed from the site. The log shall include material type, vehicle identifications, load number, manifests number and the destination of the material.

3.4 ON-SITE DISPOSAL OF EXCESS CLEAN SOIL

A. The Contractor shall dispose of excess clean soil deemed to be suitable for on-site disposal within the limits of the Site and in accordance with conditions defined in the Plan. No soil can be placed for reuse on-Site without the permission of the Engineer. The soil materials shall be used as backfill to achieve the minimum preparation subgrades. In the event that excess materials are generated, the Contractor shall coordinate any necessary grading adjustments with the Engineer.

END OF SECTION

ATTACHMENT 6

APPENDIX III – EFFLUENT LIMITATIONS

Appendix III - Effluent Limitations

Parameter	Effluent Limit	Limit type based on monthly sample	Sample Type
1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/l) 50 mg/l for hydrostatic testing only	monthly average	grab
2. Total Residual Chlorine (TRC)	FW[1] = 11 ug/l[2] SW[3] = 7.5 ug/l[2]	monthly average	grab
3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/l	daily maximum	grab
4. Cyanide (CN)[4]	SW = 1.0 ug/l[5] FW = 5.2 ug/l[5]	monthly average	grab
5. Benzene (B)	5.0 ug/l 50.0 ug/l - hydrostatic testing only	daily maximum	grab
6. Toluene (T)	(limited as ug/L total BTEX)	daily maximum	grab
7. Ethylbenzene (E) - 100414 -	(limited as ug/L total BTEX)	daily maximum	grab
8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX)	daily maximum	grab
9. Total BTEX[6]	100 ug/l	daily maximum	grab
10. Ethylene Dibromide (EDB) (1,2- Dibromo-methane)	0.05 ug/l	daily maximum	grab
11. Methyl-tert-Butyl Ether (MtBE)	70.0 ug/l	daily maximum	grab
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	Monitor Only (ug/L)	daily maximum	grab
13. tert-Amyl Methyl Ether (TAME)	Monitor Only (ug/L)	daily maximum	grab
14. Naphthalene	20 ug/l[7]	daily maximum	grab
15. Carbon Tetrachloride	4.4 ug/l	daily maximum	grab
16. 1,4 Dichlorobenzene (p-DCB)	5.0 ug/l	daily maximum	grab
17. 1,2 Dichlorobenzene (o-DCB)	600 ug/l	daily maximum	grab
18. 1,3 Dichlorobenzene (m-DCB)	320 ug/l	daily maximum	grab
19. Total dichlorobenzene	763 ug/l in NH only	daily maximum	grab
20. 1,1 Dichloroethane (DCA)	70 ug/l	daily maximum	grab
21. 1,2 Dichloroethane (DCA)	5.0 ug/l	daily maximum	grab
22. 1,1 Dichloroethylene (DCE)	3.2 ug/	daily maximum	grab

23. cis-1,2 Dichloro-ethylene (DCE)	70 ug/l	daily maximum	grab
24. Dichloromethane (Methylene Chloride)	4.6 ug/l	daily maximum	grab
25. Tetrachloroethylene (PCE)	5.0 ug/l	daily maximum	grab
26. 1,1,1 Trichloro-ethane (TCA)	200 ug/l	daily maximum	grab
27. 1,1,2 Trichloro-ethane (TCA)	5.0 ug/l	daily maximum	grab
28. Trichloroethylene (TCE)	5.0 ug/l	daily maximum	grab
29. Vinyl Chloride (Chloroethene)	2.0 ug/l	daily maximum	grab
30. Acetone	Monitor Only (ug/L)	daily maximum	grab
31. 1,4 Dioxane	Monitor Only (ug/L)	daily maximum	grab
32. Total Phenols	300 ug/l	daily maximum	grab
33. Pentachlorophenol (PCP)	1.0 ug/l	daily maximum	grab
34. Total Phthalates [8] (Phthalate esthers)	3.0 ug/L	monthly average	grab
35. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	6.0 ug/l	daily maximum	grab
36. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/l	daily maximum	grab
a. Benzo(a) Anthracene	0.0038 ug/l [9]	daily maximum	grab
b. Benzo(a) Pyrene	0.0038 ug/l[9]	daily maximum	grab
c. Benzo(b)Fluoranthene	0.0038 ug/l[9]	daily maximum	grab
d. Benzo(k)Fluoranthene	0.0038 ug/l[9]	daily maximum	grab
e. Chrysene	0.0038 ug/l[9]	daily maximum	grab
f. Dibenzo(a,h)anthracene	0.0038 ug/l[9]	daily maximum	grab
g. Indeno(1,2,3-cd) Pyrene	0.0038 ug/l[9]	daily maximum	grab
37. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/l	daily maximum	grab
h. Acenaphthene	(limited as total ug/L Group II PAHs)	daily maximum	grab
i. Acenaphthylene	(limited as ug/L total Group II PAHs)	daily maximum	grab
j. Anthracene	(limited as ug/L total Group II PAHs)	daily maximum	grab
k. Benzo(ghi) Perylene	(limited as ug/L total Group II PAHs)	daily maximum	grab

l. Fluoranthene	(limited as ug/L total Group II PAHs)	daily maximum	grab
m. Fluorene	(limited as ug/L total Group II PAHs)	daily maximum	grab
n. Naphthalene	20 ug/l	daily maximum	grab
o. Phenanthrene	(limited as ug/L total Group II PAHs)	daily maximum	grab
p. Pyrene	(limited as ug/L total Group II PAHs)	daily maximum	grab
38. Total Polychlorinated Biphenyls (PCBs)[10]	0.000064 ug/L[11]	daily maximum	grab

Metal parameters	Total Recoverable Metal Limit @ H = 50 mg/l CaCO3[12] for discharges in Massachusetts (ug/l)	Total Recoverable Metal Limit @ H = 25 mg/l CaCO3[13] for Discharges in New Hampshire (ug/l)	Averaging Time	Sample Type
39. Antimony	5.6	5.6	daily maximum	grab
40. Arsenic	FW = 10 SW = 36	FW = 10 SW = 36	monthly average	grab
41. Cadmium	FW = 0.2 SW = 8.9	FW = 0.8 SW = 9.3	monthly average	grab
42. Chromium III (trivalent)	FW = 48.8 SW = 100	FW = 27.7 SW = 100	monthly average	grab
43. Chromium VI (hexavalent)	FW = 11.4 SW = 50.3	FW = 11.4 SW = 50.3	monthly average	grab
44. Copper	FW = 5.2 SW = 3.7	FW = 2.9 SW = 3.7	monthly average	grab
45. Lead	FW = 1.3 SW = 8.5	FW = 0.5 SW = 8.5	monthly average	grab
46. Mercury	FW = 0.9 SW = 1.1	FW = 0.9 SW = 1.1	monthly average	grab
47. Nickel	FW = 29.0 SW = 8.2	FW = 16.1 SW = 8.2	monthly average	grab
48. Selenium	FW = 5.0 SW = 71	FW = 5.0 SW = 71	monthly average	grab
49. Silver	FW = 1.2 SW = 2.2	FW = 0.4 SW = 2.2	daily maximum	grab
50. Zinc	FW = 66.6 SW = 85.6	FW = 37 SW = 85.6	monthly average	grab
51. Iron	1,000	1,000	daily maximum	grab

1. FW = fresh water.

2. Although the maximum values for TRC are 11 ug/l and 7.5 ug/l for freshwater and saltwater respectively, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 20 ug/l).

3. SW = salt water.

4. Limits for cyanide are based on EPA's water quality criteria expressed as micrograms (ug) of free cyanide per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.

5. Although the maximum values for cyanide are 5.2 ug/l and 1.0 ug/l for freshwater and saltwater, respectively, the compliance limits are equal to the minimum level (ML) of the Method 335.4 as listed in Appendix VI (i.e., 10 ug/l).

6. BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

7. Naphthalene can be reported as both a purgeable (VOC) and extractable (SVOC) organic compound. If both VOC and SVOC are analyzed, the highest value must be used unless the QC criteria for one of the analyses is not met. In such cases, the value from the analysis meeting the QC criteria must be used.

8. The sum of individual phthalate compounds.

9. Although the maximum value for the individual PAH compounds is 0.0038 ug/l, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

10. In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as *"total PCBs is the sum of all homologue, all isomer, all congener, or all Aroclor analyses."*

11. Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).

12. Assumes FW Hardness Value (H) = 50 mg/l as $CaCO_3$ in MA: Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc which are Hardness Dependent.

13. Assumes FW Hardness Value (H) = 25 mg/L in NH for: Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc which are Hardness Dependent.

ATTACHMENT 7

NOTICE OF INTENT - REMEDIATION GENERAL PERMIT

B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General site information. Please provide the following information about the site:

<table>
<tr><td colspan="2">a) Name of facility/site:</td><td colspan="4">Facility/site address:</td></tr>
<tr><td>Location of facility/site:
longitude:_____ latitude:_____</td><td>Facility SIC code(s):</td><td colspan="4">Street:</td></tr>
<tr><td colspan="2">b) Name of facility/site owner:</td><td colspan="4">Town:</td></tr>
<tr><td colspan="2">Email address of owner:</td><td rowspan="2">State:</td><td rowspan="2">Zip:</td><td rowspan="2" colspan="2">County:</td></tr>
<tr><td colspan="2">Telephone no.of facility/site owner:</td></tr>
<tr><td colspan="2">Fax no. of facility/site owner:</td><td colspan="4" rowspan="2">Owner is (check one): 1. Federal____ 2. State/Tribal_____
3. Private_____ 4. other, if so, describe:</td></tr>
<tr><td colspan="2">Address of owner (if different from site):</td></tr>
<tr><td colspan="6">Street:</td></tr>
<tr><td colspan="2">Town:</td><td>State:</td><td>Zip:</td><td colspan="2">County:</td></tr>
<tr><td colspan="2" rowspan="2">c) Legal name of operator:</td><td colspan="4">Operator telephone no:</td></tr>
<tr><td colspan="3">Operator fax no.:</td><td colspan="2">Operator email:</td></tr>
<tr><td colspan="6">Operator contact name and title:</td></tr>
</table>

Address of operator (if different from owner):	Street:		
Town:	State:	Zip:	County:

d) Check "yes" or "no" for the following:
1. Has a prior NPDES permit exclusion been granted for the discharge? Yes___ No___, if "yes," number:
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes___ No___, if "yes," date and tracking #:
3. Is the discharge a "new discharge"as defined by 40 CFR 122.2? Yes___ No___
4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes__ No__

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes___ No___ If "yes," please list: 1. site identification # assigned by the state of NH or MA: 2. permit or license # assigned: 3. state agency contact information: name, location, and telephone number:	f) Is the site/facility covered by any other EPA permit, including: 1. multi-sector storm water general permit? Y___ N___, if Y, number: 2. phase I or II construction storm water general permit? Y___ N___, if Y, number: 3. individual NPDES permit? Y___ N___, if Y, number: 4. any other water quality related permit? Y___ N___, if Y, number:

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:

b) Provide the following information about each discharge:	1) Number of discharge points:	2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)? Max. flow_____ Average flow_____ Is maximum flow a **design value**? Y___ N___ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.

3) Latitude and longitude of each discharge within 100 feet: pt.1:long._____ lat._____; pt.2: long._____ lat._____; pt.3: long._____ lat._____; pt.4:long._____ lat._____; pt.5: long._____ lat._____; pt.6:long._____ lat._____; pt.7: long._____ lat._____; pt.8:long._____ lat._____; etc.

4) If hydrostatic testing, total volume of the discharge (gals):	5) Is the discharge intermittent_____or seasonal_____? Is discharge ongoing Yes____ No_____?
c) Expected dates of discharge (mm/dd/yy): start_____ end_____	
d) Please attach a line drawing or flow schematic showing water flow through the facility including: 1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).	

3. Contaminant information. In order to complete this section, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for all of the parameters listed in Appendix III. Historical data, (i.e., data taken no more than 2 years prior to the effective date of the permit) may be used if obtained pursuant to: i. Massachusetts' regulations 310 CMR 40.0000, the Massachusetts Contingency Plan ("Chapter 21E"); ii. New Hampshire's Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act; or iii. an EPA permit exclusion letter issued pursuant to 40 CFR 122.3, provided the data was analyzed with test methods that meet the requirements of this permit. Otherwise, a new sample shall be taken and analyzed.

a) Based on the analysis of the sample(s) of the untreated influent, the applicant must check the box of the sub-categories that the potential discharge falls within.

Gasoline Only	VOC Only	Primarily Metals	Urban Fill Sites	Contaminated Sumps	Mixed Contaminants	Aquifer Testing
Fuel Oils (and Other Oils) only	VOC with Other Contaminants	Petroleum with Other Contaminants	Listed Contaminated Sites	Contaminated Dredge Condensates	Hydrostatic Testing of Pipelines/Tanks	Well Development or Rehabilitation

b) Based on the analysis of the untreated influent, the applicant must indicate whether each listed chemical is believed present or believed absent in the potential discharge. Attach additional sheets as needed.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids										
2. Total Residual Chlorine										
3. Total Petroleum Hydrocarbons										
4. Cyanide										
5. Benzene										
6. Toluene										
7. Ethylbenzene										
8. (m,p,o) Xylenes										
9. Total BTEX[4]										

[4]BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
10. Ethylene Dibromide (1,2- Dibromo-methane)										
11. Methyl-tert-Butyl Ether (MtBE)										
12. tert-Butyl Alcohol (TBA)										
13. tert-Amyl Methyl Ether (TAME)										
14. Naphthalene										
15. Carbon Tetra-chloride										
16. 1,4 Dichlorobenzene										
17. 1,2 Dichlorobenzene										
18. 1,3 Dichlorobenzene										
19. 1,1 Dichloroethane										
20. 1,2 Dichloroethane										
21. 1,1 Dichloroethylene										
22. cis-1,2 Dichloro-ethylene										
23. Dichloromethane (Methylene Chloride)										
24. Tetrachloroethylene										

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily Value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
25. 1,1,1 Trichloroethane										
26. 1,1,2 Trichloroethane										
27. Trichloroethylene										
28. Vinyl Chloride										
29. Acetone										
30. 1,4 Dioxane										
31. Total Phenols										
32. Pentachlorophenol										
33. Total Phthalates [5] (Phthalate esthers)										
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]										
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)										
a. Benzo(a) Anthracene										
b. Benzo(a) Pyrene										
c. Benzo(b)Fluoranthene										
d. Benzo(k) Fluoranthene										
e. Chrysene										

[5] The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
f. Dibenzo(a,h) anthracene										
g. Indeno(1,2,3-cd) Pyrene										
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)										
h. Acenaphthene										
i. Acenaphthylene										
j. Anthracene										
k. Benzo(ghi) Perylene										
l. Fluoranthene										
m. Fluorene										
n. Naphthalene-										
o. Phenanthrene										
p. Pyrene										
37. Total Polychlorinated Biphenyls (PCBs)										
38. Antimony										
39. Arsenic										
40. Cadmium										
41. Chromium III										
42. Chromium VI										

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
43. Copper										
44. Lead										
45. Mercury										
46. Nickel										
47. Selenium										
48. Silver										
49. Zinc										
50. Iron										
Other (describe):										

c) For discharges where **metals** are believed present, please fill out the following:

Step 1: Do any of the metals in the influent have a **reasonable potential** to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y____ N____	If yes, which metals?
Step 2: For any metals which have **reasonable potential** to exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c) (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metals:_____ DF: _____	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y____ N____ If "Yes," list which metals:

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including:

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:

b) Identify each applicable treatment unit (check all that apply):	Frac. tank	Air stripper	Oil/water separator	Equalization tanks	Bag filter	GAC filter
	Chlorination	Dechlorination	Other (please describe):			

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the **discharge** and the **design flow rate(s)** (gallons per minute) of the treatment system:
Average flow rate of discharge_____ Maximum flow rate of treatment system _____ Design flow rate of treatment system _____

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):

5. Receiving surface water(s). Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:	Direct____	Within facility__	Storm drain____	River/brook____	Wetlands_____	Other (describe):

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:
1. For multiple discharges, number the discharges sequentially.
2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water
The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water_____,

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water_____cfs
Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Yes____ No____ If yes, for which pollutant(s)?

Is there a TMDL? Yes____ No____ If yes, for which pollutant(s)?

6. Results of Consultation with Federal Services: Please provide the following information according to requirements of Part I.B.4 and Appendices II and VII.

a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes____No____
Has any consultation with the federal services been completed ? No___ or is consultation underway? Yes___ No____
What were the results of the consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (check one):
a "no jeopardy" opinion? _____or written concurrence____ on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat?

b) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility or site or in proximity to the discharge?
Yes_____ No_____ Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes_____ No_____

7. Supplemental information. :

Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name:
Operator signature:
Title:
Date:

ATTACHMENT 8

NOTICE OF INTENT - CONSTRUCTION GENERAL PERMIT

This Form Replaces Form 3510-9 (8-98)
Refer to the Following Pages for Instructions

Form Approved OMB Nos. 2040-0188 and 2040-0211

NPDES Form

EPA

United States Environmental Protection Agency
Washington, DC 20460

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity Under an NPDES General Permit

Submission of this Notice of Intent (NOI) constitutes notice that the party identified in Section II of this form requests authorization to discharge pursuant to the NPDES Construction General Permit (CGP) permit number identified in Section I of this form. Submission of this NOI also constitutes notice that the party identified in Section II of this form meets the eligibility requirements of the CGP for the project identified in Section III of this form. Permit coverage is required prior to commencement of construction activity until you are eligible to terminate coverage as detailed in the CGP. To obtain authorization, you must submit a complete and accurate NOI form. Refer to the instructions at the end of this form.

I. Permit Number

II. Operator Information

Name:

IRS Employer Identification Number (EIN): -

Mailing Address:

Street:

City: State: Zip Code: -

Phone: - - Fax (optional): - -

E-mail (optional):

III. Project/Site Information

Project/Site Name:

Project Street/Location:

City: State: Zip Code: -

County or similar government subdivision:

Latitude/Longitude (Use one of three possible formats, and specify method)

Latitude 1. __° __' __" N (degrees, minutes, seconds)
2. __° __.__' N (degrees, minutes, decimal)
3. __.____° N (decimal)

Longitude 1. ___° __' __" W (degrees, minutes, seconds)
2. ___° __.__' W (degrees, minutes, decimal)
3. ___.____° W (decimal)

Method: ☐ U.S.G.S. topographic map ☐ EPA web site ☐ GPS ☐ Other:
• If you used a U.S.G.S. topographic map, what was the scale: _____

Project Located in Indian country? ☐ Yes ☐ No
If so, name of Reservation or if not part of a Reservation, put "Not Applicable": _____

Estimated Project Start Date: / / (Month / Date / Year) Estimated Project Completion Date: / / (Month / Date / Year)

Estimated Area to be Disturbed (to the nearest quarter acre): .

IV. SWPPP Information

Has the SWPPP been prepared in advance of filing this NOI? ☐ Yes ☐ No

Location of SWPPP for viewing: ☐ Address in Section II ☐ Address in Section III ☐ Other

If Other:

SWPPP Street:

City:

State: Zip Code: -

SWPPP Contact Information (if different than that in Section II):

Name:

Phone: - - Fax (optional): - -

E-mail (optional):

V. Discharge Information

Identify the name(s) of waterbodies to which you discharge. _____

_____

Is this discharge consistent with the assumptions and requirements of applicable EPA approved or established TMDL(s)?

☐ Yes ☐ No

VI. Endangered Species Information

Under which criterion of the permit have you satisfied your ESA eligibility obligations?

☐ A ☐ B ☐ C ☐ D ☐ E ☐ F

- If you select criterion F, provide permit tracking number of operator under which you are certifying eligibility:

VII. Certification Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name: _____

Print Title: _____

Signature: _____

Date: _____

Instructions for Completing EPA Form 3510-9

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity Under an NPDES General Permit

NPDES Form | This Form Replaces Form 3510-9 (8/98) | Form Approved OMB Nos. 2040-0188 and 2040-0211

Who Must File an NOI Form

Under the provisions of the Clean Water Act, as amended (33 U.S.C. 1251 et.seq.; the Act), federal law prohibits storm water discharges from certain construction activities to waters of the U.S. unless that discharge is covered under a National Pollutant Discharge Elimination System (NPDES) Permit. Operator(s) of construction sites where one or more acres are disturbed, smaller sites that are part of a larger common plan of development or sale where there is a cumulative disturbance of at least one acre, or any other site specifically designated by the Director, must submit an NOI to obtain coverage under an NPDES general permit. Each person, firm, public organization, or any other entity that meets either of the following criteria must file this form: (1) they have operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or (2) they have day-to-day operational control of those activities at the project necessary to ensure compliance with SWPPP requirements or other permit conditions. If you have questions about whether you need an NPDES storm water permit, or if you need information to determine whether EPA or your state agency is the permitting authority, refer to *www.epa.gov/npdes/stormwater/cgp* or telephone the Storm Water Notice Processing Center at (866) 352-7755.

Where to File NOI Form

See the applicable CGP for information on where to send your completed NOI form.

Completing the Form

Obtain and read a copy of the appropriate EPA Storm Water Construction General Permit for your area. To complete this form, type or print, using uppercase letters, in the appropriate areas only. Please place each character between the marks (abbreviate if necessary to stay within the number of characters allowed for each item). Use one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. If you have any questions on this form, refer to *www.epa.gov/npdes/stormwater/cgp* or telephone the Storm Water Notice Processing Center at (866) 352-7755. Please submit original document with signature in ink - do not send a photocopied signature.

Section I. Permit Number

Provide the number of the permit under which you are applying for coverage (see Appendix B of the general permit for the list of eligible permit numbers).

Section II. Operator Information

Provide the legal name of the person, firm, public organization, or any other entity that operates the project described in this application. An operator of a project is a legal entity that controls at least a portion of site operations and is not necessarily the site manager. Provide the employer identification number (EIN from the Internal Revenue Service; IRS), also commonly referred to as your taxpayer ID. If the applicant does not have an EIN enter "NA" in the space provided. Also provide the operator's mailing address, telephone number, fax number (optional) and e-mail address (if you would like to be notified via e-mail of NOI approval when available). Correspondence for the NOI will be sent to this address.

Section III. Project/Site Information

Enter the official or legal name and complete street address, including city, state, zip code, and county or similar government subdivision of the project or site. If the project or site lacks a street address, indicate the general location of the site (e.g., Intersection of State Highways 61 and 34). Complete site information must be provided for permit coverage to be granted.

The applicant must also provide the latitude and longitude of the facility either in degrees, minutes, seconds; degrees, minutes, decimal; or decimal format. The latitude and longitude of your facility can be determined in several different ways, including through the use of global positioning system (GPS) receivers, U.S. Geological Survey (U.S.G.S.) topographic or quadrangle maps, and EPA's web-based siting tools, among others. Refer to *www.epa.gov/npdes/stormwater/cgp* for further guidance on the use of these methodologies. For consistency, EPA requests that measurements be taken from the approximate center of the construction site. Applicants must specify which method they used to determine latitude and longitude. If a U.S.G.S. topographic map is used, applicants are required to specify the scale of the map used.

Indicate whether the project is in Indian country, and if so, provide the name of the Reservation. If the project is in Indian Country Lands that are not part of a Reservation, indicate "not applicable" in the space provided.

Enter the estimated construction start and completion dates using four digits for the year (i.e., 05/27/1998). Enter the estimated area to be disturbed including but not limited to: grubbing, excavation, grading, and utilities and infrastructure installation. Indicate to the nearest quarter acre. Note: 1 acre = 43,560 sq. ft.

Section IV. SWPPP Information

Indicate whether or not the SWPPP was prepared in advance of filing the NOI form. Check the appropriate box for the location where the SWPPP may be viewed. Provide the name,

Instructions for Completing EPA Form 3510-9

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity Under an NPDES General Permit

NPDES Form | This Form Replaces Form 3510-9 (8/98) | Form Approved OMB Nos. 2040-0188 and 2040-0211

fax number (optional), and e-mail address (optional) of the contact person if different than that listed in Section II of the NOI form.

Section V. Discharge Information

Enter the name(s) of receiving waterbodies to which the project's storm water will discharge. These should be the first bodies of water that the discharge will reach. (Note: If you discharge to more than one waterbody, please indicate all such waters in the space provided and attach a separate sheet if necessary.) For example, if the discharge leaves your site and travels through a roadside swale or a storm sewer and then enters a stream that flows to a river, the stream would be the receiving waterbody. Waters of the U.S. include lakes, streams, creeks, rivers, wetlands, impoundments, estuaries, bays, oceans, and other surface bodies of water within the confines of the U.S. and U.S. coastal waters. Waters of the U.S. do not include man-made structures created solely for the purpose of wastewater treatment. U.S. Geological Survey topographical maps may be used to make this determination. If the map does not provide a name, use a format such as "unnamed tributary to Cross Creek". If you discharge into a municipal separate storm sewer system (MS4), you must identify the waterbody into which that portion of the storm sewer discharges. That information should be readily available from the operator of the MS4.

Indicate whether your storm water discharges from construction activities will be consistent with the assumptions and requirements of applicable EPA approved or established TMDL(s). To answer this question, refer to *www.epa.gov/npdes/stormwater/cgp* for state- and regional-specific TMDL information related to the construction general permit. You may also have to contact your EPA regional office or state agency. If there are no applicable TMDLs or no related requirements, please check the "yes" box in the NOI form.

Section VI. Endangered Species Information

Indicate for which criterion (i.e., A, B, C, D, E, or F) of the permit the applicant is eligible with regard to protection of federally listed endangered and threatened species, and designated critical habitat. See Part 1.3.C.6 and Appendix C of the permit. If you select criterion F, provide the permit tracking number of the operator under which you are certifying eligibility. The permit tracking number is the number assigned to the operator by the Storm Water Notice Processing Center after EPA acceptance of a complete NOI.

Section VII. Certification Information

All applications, including NOIs, must be signed as follows:

For a corporation: By a responsible corporate officer. For the purpose of this Section, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this Part, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA).

Include the name and title of the person signing the form and the date of signing. An unsigned or undated NOI form will not be considered eligible for permit coverage.

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 3.7 hours. This estimate includes time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Chief, Information Policy Branch 2136, U.S. Environmental Protection, Agency, 1200 Pennsylvania Avenue, NW, Washington, D.C. 20460. Include the OMB control number on any correspondence. Do not send the completed form to this address.